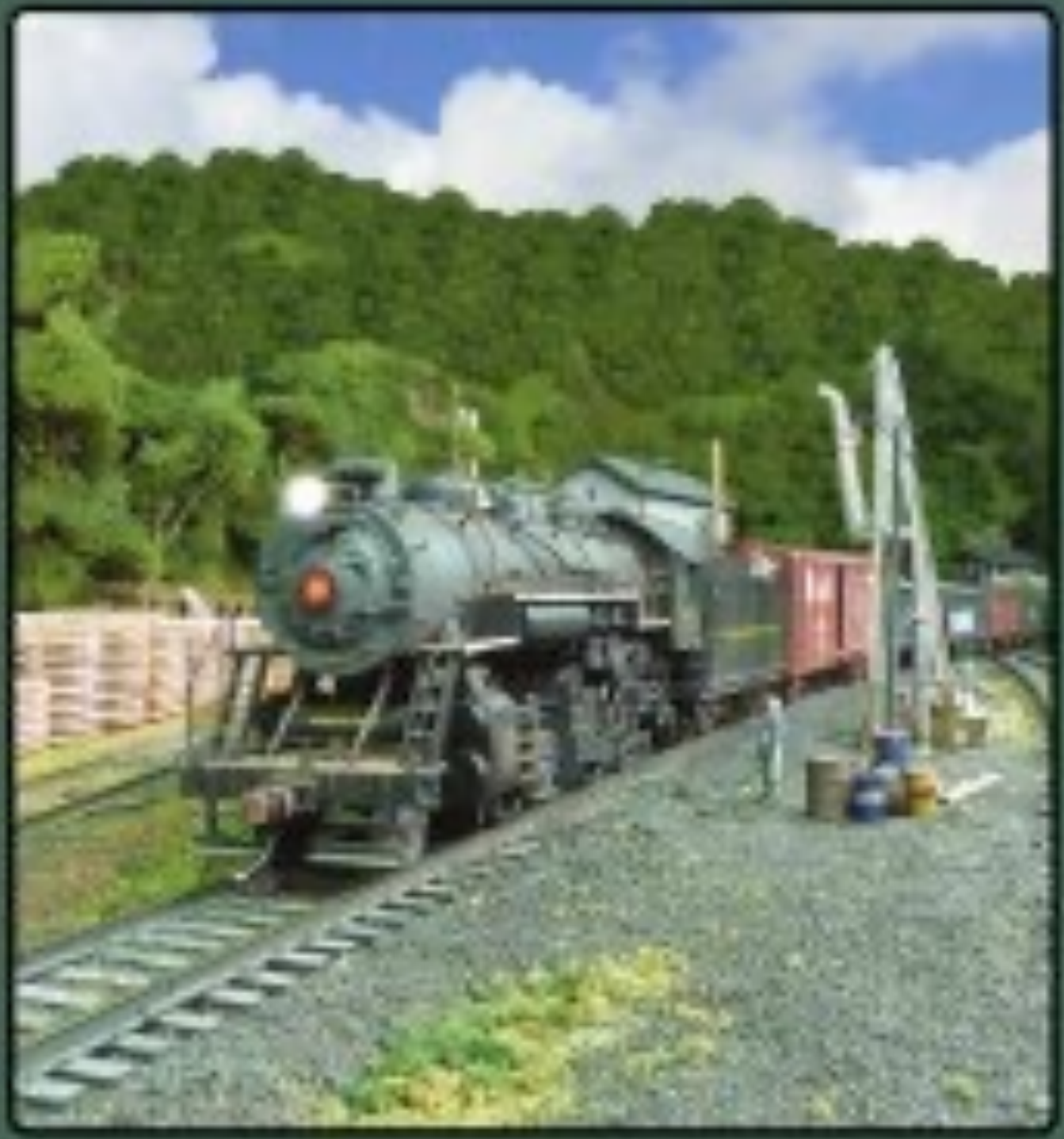
NARROW GAUGE AND SHORT LINE GAZETTE

Access to Information for Narrow Gauge Railroading — Jan/Feb 2013



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- #917176 UP – Yellow/Yellow
- #917174 Caltrain – Yellow/Yellow
- #917173 Burlington Northern – Yellow
- #917172 CSX – Yellow
- #917170 BNSF – Yellow
- #917171 BNSF Executive – Yellow
- #917169 GN – Green/Yellow
- #917167 CP Railway – Yellow/Black
- #917162 CP Rail – Red/Yellow
- #917164 CN – Black/Yellow
- #917168 C&NW – Yellow
- #917160 Milwaukee Road – Yellow
- #917166 Ann Arbor – Red
- #917161 Rutland Green Line – Yellow
- #917165 NYNH – Black
- #917163 Kansas City Southern – Yellow
- #917159 TP&W – Yellow
- #917157 Florida Leasing – Yellow
- #917155 Frisco – Red/Yellow
- #917154 C&O – Yellow
- #917156 B&LE – Brown/Yellow

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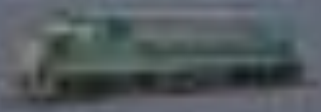
Chicago, Burlington & Quincy

Conrail

Louisville & Nashville

Western Pacific



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On The Cover

The cover image is a mural by Bobbi Vincent Champion in Atlanta, Georgia, that features John Kelly's Peach Tree Express train on a backdrop of scenes from the city's attractions and history. That same mural is also featured on the cover of the Peach Tree Express — Photo: Timothy Rhoads, NMRA photo

In addition to our unique decoders, we've recently announced many of our HO die cast locos sold features never before available. Here's a taste of what sets MRC decoders now offer.

Our Synch ENG control automatically adjusts. Or if you prefer, you can make your adjustments manually.

Until now, we reengineered sounds only delivered a consistent RPM sound. Now, the popular prototypes we've enhanced the air compressor sound on our diesel decoder so it's in synch with the RPM of the prime mover. Depending on loco type, use the decoder when synched or non-synched to the prime mover. This is unique to MRC decoders.

Only our MRC decoder puts authentic braking system and synchronized sound together. We've added real-life, service braking control. Apply the brake, it will progressively slow the loco. Simultaneously, brake squeal will be activated. Stop applying the brake, or come to a stop, the squeal turns off.

Our new, Dynamic Braking feature. Hitting Dynamic Braking (DB) not only slows the loco down, but activates the appropriate sounds. Hear it now the cooling fans come on to cool the resistor grid, the engine revs down and the noise drop as the loco slows.

The first sound decoder to replicate the sounds of three prime movers in a full-size Baldwin Loco. Decompiled for an HO Gandy loco, it's the sound of three prime movers going on one toy one. From idle to a thundering, full-throated rumble. And like the prototype a short down after no been on idle for a while.

Lighting control... 11 of them. Our decoders now offer 11 lighting options, including gyra lights, ditch lights, mars lights, strobe lights, oscillating beat lights, on-off, dynamic. Rule 17, dim dright-off cycle, cabin lights and more.

Sharper Sound. When pronounced prime mover resumption and out of synch RPMs from your dual monaural & But When one prime mover's bell and horn sounds to emanate from the front speaker and the second prime mover's sounds to come from the rear speaker? Then try the new MRC SOUNTECH drop in sound decoder for E 8s. Comes with rear speakers.

To learn more about MRC sound decoders, visit us at:
www.modelrectifier.com

MRC Model Rectifier Corporation

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NEXT ISSUE

In the March issue, we visit Nine Engineers in HO scale. John Caldwell's realistically scenicked Rail Berkshire Branch is home to Boston & Maine and Rutland trains.

On the cover: A coal train crosses a viaduct on the Pennsylvania RR Middle Division, a former MR project layout expanded by Jimmy Glasgow and friends. [cover story, p. 50]

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MR Online **Model Railroader web extra**

M.T.H. / Lionel February 2013 Special Closeout Pricing

www.nassauhobby.com

EDITOR'S DESK

Postwar perfection!

REBUILDING LIONEL NO. 022 SWITCHES AND MORE

When I started back into model railroading, one of my goals was to model my childhood layout as it looked in the 1950s. One project I addressed was replacing my O gauge tubular track and O-27 switches with tinplate scale-width track and O-gauge switches. Nothing wrong with that!

For shame! O gauge's tubular track is the closest fit a non-train person (I kinda-sorta-kid-at-heart-ish) will ever get to a real railroad. Realistic much, or prototypical (and practical). Thanks to decades of more precise-but-need-track-is-widely-available-and-reasonably-priced.

If you're an O gauger—and you've been a while, you're probably much a boomer or two—this tubular track. But even superior can have some styles on page 46, you'll find Lionel Fastrack from Kalmbach's favorite tips for working with classic three-rail track. From track plan

ning to common cranking track and making insulated track sections, you'll find it here.

Over 2,140 layout plan features a pair of Lionel no. 022 remote-control switches. Talk about no-brainer... the 022 was introduced in 1938 and has been made with only the smallest era. It's still the most recognizable switch around!

The reasons for the enduring popularity of these switches are no secret. They look great, are reliable, sturdy, and have proven to be remarkably reliable. No wonder those in Lionel built the 022 right.

Every so often a new iteration of one these switches can get a little tired. Fortunately, 2016 saw reasonable ways to keep up and remaining their great looks and snappy, like new operation a very satisfying.

We thought an article on making Lionel's 022—would be interesting and helpful. Publisher Kim's Newsstand knows how one person does switches, and he couldn't agree to write a step by step article on

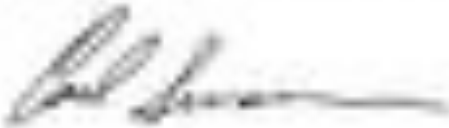
retrofitting them to good condition. I set off to find a suitably skilled 022. (A short story would perform his magic.)

My local hobby store was happy to share his a weathered pair of 022s, like new, with original boxes, and priced to move.

"Hmm mmm," I agreed. "But I was really hoping that you had something in much more a condition."

After a search, the store located the best of which I needed a guarantee more as shown in the above photo of the controller.

Not above everything that could be wrong with a switch that wrong with this one. And not one never. On page 54, read about how Kim's restoration was switch to useful service, and how you can, too.



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>> New product announcements are posted on a new ModelRailroader.com weekly each

With scale Sound Xtreme Internal sound installed, Athearn displayed a pre-production sample of the modern locomotive. The ES44AC leased as Trenet 50 scaling will be decorated for BNSF #1. Warnings #5.

Canadian Pacific, and Union Pacific in four road numbers per scheme. The Genesis series model, scheduled for release in June 2015, will have a new front headlight, new dynamic brake exhaust stacks with close-spacing and flush housing, and a Railman DCC/S Sonic Direct current module will sell for $180.00. Models with a SoundTraxx Digital Command Control sound decoder will be priced at $240.00. Athearn Trains, 310-263-7100, athearn.com

Trainfest sets new record

Trainfest, the second train show held at the Whittwick Train Engineers in West Hills, set a new attendance record with 21,000 visitors, vendors, and volunteers. This year's show was hosted 3,100 more than the same first 3 months time.

In addition to the many product announcements shown on the following pages, there are other industry news:

The World's Greatest Hobby program made a $10,000 donation to the upcoming scale model railroad exhibit to be housed in the California State Railroad Museum in Sacramento.

Model Railroader's Dave Hedges received the John H. Dave Sperry Model Railroading Award for his lifelong dedication to the hobby. The award is named after the museum's director of Trainfest.

Trainfest 2015 will be from 9 until 10 A.M. For more information, visit www.trainfest.com.

The World's Greatest Hobby donated $10,000 to the National Model Railroad Association's upcoming scale model railroad exhibit. From left, Allen Pollack receives the check from Dael Reece (Backstage), Phil Skidmore (Mr. R. Skidmore Inc.), Terry Thompson (Kalmbach Publishing Co.), Michelle Kato (Kato), and Rene Lamont, the originator of the World's Greatest Hobby program.

HO scale locomotives

>> Atlas HO 2-Bay Locomotive

>> Atlas O 4-8-8 Steam Locomotive

>> Mobile Updates

Scan the code to access Model Railroader's weekly News & Products updates from your mobile device.

< United States Railroad Administration light and heavy 4-8-2 Pacific steam locomotives. Pre-production sample shown. Eight-wheel tender. Cast-metal boiler, cab, and tender shell; plastic frame, rods, and trailing truck. Available in Olive Drab, Lettered, or Heritage Steamer (< Juan models) and Painted (see number). Heavy: $864 (Chicago & Eastern Illinois) and five case available. Both versions offered painted black but subjected. Two-rail locomotive with eight-wheel Pacific and die-cast metal construction and Tsunami2 Sound-and-control system. $399.95. Ready to run. Broadway Limited Imports. (No. of 1-4940; www.broadwaylimited.com)

< Baldwin & Westinghouse class T16 2-8-8-2 steam locomotive with class 3.0 tender. Not-cast appliance die-cast metal construction. Tsunami2 Sound-and-control system and tender and synchronized to chuff rate. $599.95. Ready to run. Broadway Limited Imports. (No. of 1-4940; www.broadwaylimited.com)

< Two- and three-truck Heisler geared steam locomotives. Pre-production sample shown. Two-truck Georgia Pacific and West Side Lumber Co. three-truck Heisler/Shay. Two-rail locomotive with Sound-and-Direction/Headlight Board version sound with 21-pin socket for Digital Command control decoder. $349.99 (2-truck) and $399.99 (3-truck). With Railsound 5.0 sound decoder, $499.99 (2-truck) and $549.99 (3-truck). Ready to run. Walthers available from Horizon America Inc., 877-700-6400. www.broadwaylimited.com

>> In Memoriam

Wolfgang Richter, 1930-2015

Wolfgang Richter, longtime co-owner and general manager of Roundhouse & K Locomotive and car developer, died last Nov. 21, 2015. He was 84 years old.

The Roundhouse brand was founded in Lake Mills in 1968, primarily selling N and O gauge trains. From the beginning, Dick included the trains in the used products as well as historic and the detailed model quality of the trains was the catalyst for the development of the garden railway hobby as it is known today. It was under the leadership that Roundhouse went from being a small, local operation to one of the world's largest model train manufacturers.

Richter's keen responsible good humor and legendary "stories of passion became trademarks of the brand, and were every bit as well known as the trains sold through the green boxes. He was also known for the joy he took in talking with his customers and for his policy that LGB would offer high-quality products even in hard times. His philosophy was that the person who purchased an LGB train was giving the LGB family, and he made sure to treat his customers accordingly. That led to a very high degree of enthusiasm and brand loyalty among LGB customers in the U.S. and worldwide.

In the late 1990s, due to the passage the hardening of Lehmann on the and that was declared and reported. But he continued to serve as the brand's chief ambassador and later chairman and company's 2008 bankruptcy and eventual acquisition by Modelo.

Those of us who had the privilege of knowing Wolfgang know him as a kind, intelligent, and thoughtful gentleman. He was one of a kind, and the world of LGB model railroading will miss him. — Terry Thompson, publisher

Lee Campbell, 1931-2015

Lee Campbell, founder of Campbell Scale Models, died Nov. 1, 2015 at age 84 in Grand Junction (Colo.).

Campbell, a painting contractor by trade, began selling wood structure kits as a side business. He started the company in 1965.

Campbell's line, known for their detailed instructions drawing and a big fan and model enthusiast, by the mid-1970s the company was selling about 30,000 kits annually.

In 1985 Campbell moved the company to Durango (Colo.), and in 2008 he sold it to Duncan Campbell (no relation). Today the company operates out of Grand Point, Ore.

Mth scale Budd Metroliners. **Pre-production samples of steam-intensity passenger cars were shown by Walthers. The Budd Metroliners (coach, parlor car, and snack bar coach) will be decorated in Amtrak phase I paint. Steam current model with retail for $199.98. Cars with a RailSounds Digital Command Control sound decoder will be priced at $254.98 each. Mth: S. Walthers Inc., 414-527-0770, www.walthers.com**

N scale Electric Mantua
Olympian 5000 diesel locomotive.
This classic red cab switcher is being re-issued by Kato. The N5000 will be painted for Union Pacific, Burlington Northern, and Santa Fe in two road numbers each. The ready-to-run model has a split-frame mechanism and gold-white light emitting diode headlights. The N5000 runs for $119. Kato USA Inc., 847-781-0676, www.katousa.com

N scale Accurail 50-foot double-plug door boxcar. A production sample of the new Accurail was fashioned by Micro Trains. The 50-foot boxcar, delivered for Walgreen, is the line's 118th body style. The car features an injection-molded plastic body with riveted sides, thin-profile running boards, body-mounted Magnet Wafer knuckle couplers, prototype-specific underframe truss styles, and 70- or 100-ton trucks with 33" or 36" wheelsets, respectively. The ready-to-run model sells for $22.50. Micro Trains Line Co., 541-685-1780, www.micro-trains.com

N scale Mountain Rambler 40-foot boxcar. This custom-decorated Delaware rolls stylized metal running boards is available from Prototype N Scale Models by Georgia Northeastern. The ready-to-run car is available in three road numbers. Single cars are $29.95 each; three-packs are $89.85. Shipping is $4.95 per order. Money mandatory add $2.25 personal sales tax. Prototype N scale models by Georgia Northeastern, prints.rocrail.net/cars.com, 910-575-0500

HO scale structures

Nine Chimneys structures. Injection-molded plastic body, window glazing, operating overhead and headlights. A 40' wheelbase truck, and can easily with furniture. Power pack sold separately and be available separately. Offers current and sound equipped models. Road names, car numbers, and price at the commercial. Retail is now. Executive Cars Division, 479-268-1374, www.ExecutiveCars.com

HO scale electric locomotives

Pennsylvania GG-1s1. Accurate Center-cab leather recipes. Diesel-cab versions with Mfg Digital decoder sound, engineer cabs, aluminum handrails, interpower cranks and two plate cranks. $179.95. Models, www.ho.com, www.models.com

HO scale freight cars

Pullman-Standard 4,750-cubic-foot-capacity covered hopper kit. Reference, Inspire & Solve for Burlington Northern PS2 #s / Chicago & North Western 2-P #s / Chicago Northwestern Co. of Illinois Company & Western Company Co. of Rock Island, Soo Line, Southern #s, Union Pacific, also with cylinder light gray, or painted rail and undecorated. Injection-molded plastic kits. Price and release date to be announced. Accurail, 586-801-1173, www.accurail.com

Accurail transfer and short-body box versions released. Chesapeake, Louisville & Nashville, or Southern System, Florida East Coast, Illinois, Indiana Rail Road, Florida East Coast patterned, one road numbers. Missouri Pacific, Seaboard Coast Line, Maintenance of Way Centro Northern Pacific (one number), and Union Pacific (six numbers). Kits sold separately and unassembled. Wire grab irons and stenciling/grabs. Rollers on 110-ton (weight) and national specific details (MSRP). $22 retail per. Ready-to-run Walthers Shops LLC, 414-422-1616, www.walthers.com.

Pennsylvania GR-A30 covered hoppers. Available in Wisconsin and 1950 (weight) concrete early hoppers or gray

(injection-molded plastic model) with metal wheelsets, traction magnets and small parts. Road numbers and paint to be announced. Ready to run. Electric Line. Release 11th qtr 2019. www.broadwaylimited.com

• **Milwaukee Road transfer caboose.** 2 typical schemes: black lettering with herald, and black lettering with herald and white cabin. Two-truck wooden cabin. Features molded plastic body, etched metal and resin parts, and metal wheelsets. $69.95. Ready to run. Diesel quarter. Intro Dec. Kadee Models. www.kadee.com

HO scale passenger cars

• **Milwaukee Road 'Pullman-Standard' heavyweight passenger cairs.** 4 full sets of heavyweight passenger cars, including 2 RPO/baggage cars, 2 coaches, 1 diner, 1 observation car, and 1 baggage car. $74.95. Three-car set, $49.95. Ready to run. Milwaukee, Wisconsin. Intro Dec. 2017. 800-821-1992. www.bachmannusa.com

• **New York Central 20th Century Limited passenger cars.** 10-car set (1 baggage, 2 RPO, 4 heavyweight coaches, 1 observation car, and 2 streamlined coaches) with 21 separately detailed and illuminated cars. Intro'd 1st quarter 2019. Ready to run. Diesel quarter. Intro Dec. Kadee Models. www.kadee.com

HO scale structures

• **Village hall and volunteer fire department.** Laser-cut classic glimpsed

With scale-thread trucks, Bluford's wooden, pneumatic-effect cupola caboose... **This colorful caboose was shown by True Line Trains. The car (pre-production model shown) is based on a GTW prototype painted for the Wisconsin Marathon Bicentennial. The caboose features metal wheelsets, knuckle couplers, and clear-window glazing. It's priced at $44.98. True Line Trains, 855-738-8358, www.truelinetrains.us**

assorted anti-skateboarding detail. $19.99. C.K. Laser, 651-714-3627, www.ckhaven.com

- **Bill Holding & Forge.** Laser-cut electric ply wheel spool kit, $34.99. LEC, 1-888-801-5532, www.leclaser.com
- **Assembled structures.** Custom porch boxes ($79.99) and Chevy's Bike Shop ($99.99). Factory-painted and weathered structures, main detail parts. Landmark Structures. Build & Scale Kits. Woodland Scenics, 732-946-1293, www.woodlandscenics.com
- **Assorted structures.** Classic Depot/Water Tank and Wreath's Country Mart. Plastic weathering wall clapboard sections and factory-finished edges. $49.95. Select Building Kits. Woodland Scenics, 732-946-1293, www.woodlandscenics.com

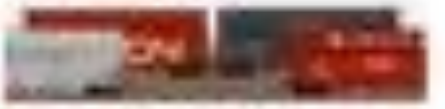
HO scale details and accessories

- **50-foot container chassis.** 2-Axle Shipping Chassis Kit, 6 Lock Wheels, #4810, and #2501. Two-pack, $20.98. Item 3013. Athearn Trains, 866-741-7481, www.athearn.com
- **100-foot intermodal container.** Milled Iron Cross, #HHF-801. 2 Location Notched and 2 Recessed Mounts. 3-pack, $10.99. Item 3013. Athearn Trains, 866-741-7481, www.athearn.com
- **Metal wheelsets.** 33" or 36" Variable-pack, $19.99 each. Reboxx, 248-889-3478, www.reboxx.com
- **Assorted detail parts.** Tie plates (20 pack, $3.99). Chairpoint (6-pack, seven patterns, $6 pack), and brick pallets (10 pack). Resin castings. Can be painted and painted. $3.99 each unless noted. DJP Model Train Products, djpmodeltrainproducts.com
- **PS-60 Piggy-Packer.** With its, Canadian National intermodal, Hillman Van Horne Corporation Co., Ruggs Wiggins Railroad Systems, Southern Pacific Transportation Co., and Union Pacific. Preferential lumber, waggon wash kit, detailed cab interior, and side-mounting ladder lighting light. Prices to be announced. Wheels of Time, 866-737-4654, www.wheelsoftime.com

N scale locomotives

- **Electro-Motive Division F40PH diesel locomotive.** Available (phase 2) light horse mechanism. Has new molded plastic shell with new lights and cowling on engineers' cab. Ready to run. Bachmann Industries, Inc., 267-784-4210, www.bachmann.com

N scale freight cars



- **Assorted wood chip hoppers.** Interior and hopper with internal post extensions. Load. Multiple Chip Assembly & Instructions and Overall dimensions. 1982 Composite. Other cars hopper with fan extensions. Boxcar & Union Location Features, and Various Cars' bottoms single car and 2-pack cards. Other hopper with exterior post extensions. Chicago & North Western hopper interior and Milwaukee Road. Exterior post hopper with the orientation. Gauges 840 single car and 2-pack cards and textured bottom. Single car, $15.79. 2-pack, $28.98 and 4-pack, $56.97. 2013. Ready to run. Model Shops, 630-422-4800, www.modelshops.com.
- **Milwaukee Road monitor caboose.** Original scribing. Mold lettering with factory and black lettering with factory and other ends. Two road numbers each. Injection-molded plastic body, etched metal roof and grates, and metal wheelsets. $28.95. Ready to run. Third quarter 2014. Kay Hobby Models, www.kaymodels.com.

- **Pacific Car & Foundry 50-foot 10-door boxcar equipped insulated boxcar.** Pre-production weight shown. Undergoes finishes (two versions). St. Louis San Francisco, Southern Pacific ("Modern Cabbage Art Angle Freight" lettering), Western Pacific ("Feather River" lettering), and painted boxes with dimensional stencils in and 4-foot Evergreen plug doors. Prototype-specific doors and underframe. Scale-accurate hinges, brass knuckle couplers, and metal wheelsets. Price to be announced. Ready to run. Wheels of Time, 866-737-4654, www.wheelsoftime.com.

N scale passenger cars

- **Bombardier bi-level commuter cars.** Four road numbers (Caltrain and

Old Town

By
Agoura Division Dyers Models, LLC.
at Your Hobby Dealer or direct from
www.glynerdolls.com

FEATURES / OPTIONS SOLUTION

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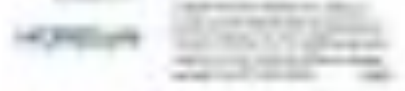

TOUGH
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NEWS & PRODUCTS

Essex Rail Products offers 40' 1900-class gondolas. **Essex Rail** has more prototype models of its latest HO scale Signature series car. The Southern Pacific class G-70B-21 gondolas serve to be announced with base streamlined ends, wire grab irons, top chord tie downs, uncoupling levers, and Kadee no. 58 knuckle couplers. Essex Rail LLC (866-565-7737; www.essexrail.com)

Horizontal. Threaded stainless steel grab irons clear window glazing. Cards or cast no. 849-88 each) 1 pack, 3034-86 Ready-to-run (ship 2011, Tahoma Net Set 2 pc. www.athearn.com)

N scale details and accessories

Junk hoods for gondolas. Resin casting with color molded throughout. Four pack, No.PP-1 HP Model Train Products (phoenixprecision.com)

Assorted animals. Black Angus cows/calves, goats and holsteins pigs (12 each) #13-81 each. Scenic Accents, Woodland Scenics, 972-566-3191, www.woodlandscenics.com

Large scale train sets

Starter sets. LGB features starter set no. 21 Centennial Express starter set, includes locomotive, dump car, and flatcar with load. Ready to run set includes batteries, 24" oval, 3-4-5-6 and 12 pieces of G (24"diam) curve, track in black, 36" diameter circle. #2399 each. Produced by LGB, distributed by Kid Trains, www.lgbtrains.com

Scenery

Plastic and resin trees. Ground, cereals, conifers, shrubs, tall, shrubs (short bush), 36 pack, lichens, pumpkins, and tree trees. #6.95 each. Produced by JTT Scenery, available from Model Rectified Corp., 732-223-3100, www.woodlandscenics.com

Electronics/controls

Motor decoder for Kato N scale EF4 diesel locomotive. DH164 has 1.5 Amp (1 Amp peak motor control rating on DC locomotives, and 1Amp/1 Amp low-current rating. DH-1 lighting, $39.95. www.digitrax.com

Kadee RC remote uncoupling system. For large scale trains. Starter kit (handheld transmitter, body mount coupler, 9V battery holder, and wiring harness), $99.95; handheld transmitter, $39.95; receiver kit (radio receiver, two coil, 4.5 V battery holder, and wiring harness), $99.95; body mount coupler (as 788 couplers) or (no linkage coiler, linkage rods, shims, large set to 4). Assembly screws and hardware, and tutorial kit, $49.95 and large servo kit (holder, servo, servo tray, and mounting screws and hardware), $24.95. Kadee Quality Products Co., www.kadeecoupling.com

LED lighting modules. For interior lighting and inside colored

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NEWS & PRODUCTS

HO-scale Red Caboose N. Shinn plans 1:87 weathering enthusiasts. **Spring Hills Depot** unveiled an exact HO scale model of Trainton. The caboose will be offered in six numbers, each in the following schemes: 1941–1942, red; 1950–1962, red; 1960–1965 blue; and 1973–1984, Chessie System. The model will have prototype-specific details, metal wheelsets, and Kadee knuckle couplers. Ready-to-run models will be $300.00, and undecorated kits are $240.00 each. Spring Hills Depot, www.springhillsdepot.com

lighting to sidewall and passenger cars. Models in 1" scale and up to 27" long, but can be cut to desired length. Able to accommodate multiple light-emitting diodes and current-limiting resistors. Can be supplied with a variety of input power requirements on cars, allowing it to operate on the voltage level of electrical power, including Digital Command Control, Railroad Controls, 281-762-4851, www.railroadcontrols.com

+ 6436 Switching dual axle decoder #79436 available. Designed to fault at prototypical rate (10 per minute) and duration. 1" scale as 79435 (range, range capacitor, and signal), 340 (N), 336, and 16 and 3, 435. All specs are available for O scale, but one of Alfa's ultimate modes was optimized. Railroad Controls, 281-762-4851, www.railroadcontrols.com

+ Rear Box. Allows user to work closed doors on an all with a Digital Command Control Assembly. Connects DCC power bus to power processor and locos. DCC connectors. Features eight 1A amp solid-state electronic switches and includes provisions for two additional 4-amp circuits. 10 DPDT. Aux Bus, www.qsidevices.com

+ Adapt-A-Board. For connecting 1/4-1/2 scale decoder accessories to Digital Command Control or radio control. Boards are available for 4-pin and 6-pin and Electro-Motive Division (EMD) and GE's GP38-2, F7A and B, SD40-2, and GP40. 42005 each. Tsunami, 631-588-3570, www.tsunamidcc.com

+ Adapt-A-Board with light positioning diode lighting kit. Available for the following USA Trains diesels: Alco PA and FA and Electro-Motive Division GP7 and GP9 (84005), GP38-2, F7A and B, SD70ACe, 82002-2, and GP40. Price is for universal wiring board. Tsunami, 631-588-3570, www.tsunamidcc.com

+ Prodigy Predictor. Turns every of extended power switch-closed towers with power seems and built-in liquid-crystal display. Operates up to 99 handheld throttles at once. $70.95. Model Rectifier Corp., 732-531-2600, www.modelrectifier.com

Benchwork

+ Benchwork. Built to order model railroad benchwork. Based on modular division design. Features cabinet-grade plywood construction, 1" and plywood, and power-over table, modules up to rectangular sizes. Masonry, Model Railroad Craftsmanship, com, 530-265-9668, www.modelrailroadcraftsmanship.com

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NEWS

■ HIGH-SPEED SALUTE: 4014 Services Trains is offering an ES40 (C40) high-hood diesel locomotive in a celebrated Norfolk & Western Bicentennial paint scheme (locomotive no. 1776 Rockville red, white, and blue graphics as well as a big #1776 date). This O-gauge model is equipped with two-can-style motors, can couplers, a smoke unit, and RPM (Digital Command System) with keyless reverse. The locomotive runs 4444-RH. See your MTH retailer or go to trainsmhenterprises.com for more information.

■ A FOUNDATION OF THE HOBBY: Available a voucher for redmark — read an invalid Hamson track or marketing television basket for O gauge model railroads. The natural stone ballast is selected for color variation, and you can buy a 4-pound multipack for $35. Go to trainsmhenterprises.com or order online or by mail from Hamson Trains, Box 66, Milton Mount, NH 11 112.

■ MORE FROM THE VAULTS OF LIONEL: Robert Crawford every again does into the history of Lionel trains, the presentation with two new 2020 Rolls Lionel Trains Advisors catalogs, 1928 1952 and Annual Reports. The Lionel Corporation 1901-1969 Advisors catalogs has more than 870 pages of material from catalogs, how-to-sell booklets, multi-piece kits, dealer display catalogs, and more material from the glossy-era Annual Reports features more than 300 pages of official Lionel public reporting, including 26 annual reports and other materials. The DVD, which are for use on Mac- or PC-based computers, cost $39 each plus $2.50 shipping. Digital versions are available for $14 apiece. For more information go to www.trainsgalore.com. To order, send payment via www.paypal.com to lionelvaultfan@aol.com, or send payment by mail to Robert Hasenhoff, 1901 Garden Valley Dr., Whitewood, NH 41036.

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LGB/Weinhold, distributed by Wm. K. Walthers, Inc., 5601 W. Florist Ave., Milwaukee, WI 53218, has announced three new Christmas-theme 1:22.5 (Garden) scale items. There's a decorated passenger car for $139.98; #4030, 2,225 ft. of "Sleigh Bell" Christmas lights for $49.98; and #4031, a complete Christmas train including a steam locomotive, a side car with a gift for a child, and a holiday passenger car for $189.99. LGB has announced two more steam cars: #4043 (steam car [pictured]) and #4044. Each comes with a battery powered engine, a dump car, a Bavaria beer [car], a circle of track, and an infrared hand-held remote with three speeds, forward/reverse, and horn sounds. Prices: $249.98. Website: www.walthers.com

Piko, Gothaerstraße 36, 96515 Sonneberg, Germany, has several new products including a new V75 0-6-0 freight car. The 0-6-0 is a short (DM30) (38.8M/39) locomotive with new hand-laid details for price and availability. Website: www.piko.de

Bridges & structures

C&S Designs, 2040 Avenue A, Box 70, Nolanville, TX 76559, has released a new model in their high-detail line building line. The Honey-in-the-Rocks Cottage series has simulated wood walls and wood-shingle roof. All buildings are hand-crafted, glazed, and beautifully weathered to fit 1/4 module size and larger. Are 1:35:1, 1:22.5, and 1:24 scales available. Price: $109.99 + s&h. Website: www.cands-designs.com

Accessories & details

Noahwoodks, PO Box 1146, North Adams, MA 01247, offers their Depot Station model Ornaco "Window kit (#G2P), Windows, when assembled, may not be opening 1/2" deep x 1/4" high x 1/4" wide. All parts are basic cut to "shelf" white romance and clear acetate. The kit is supplied unpainted. Price: $18. Website: www.Noahwoodks.com

J. D. Woodworks, PO Box 121, Lewis, CO 81327, has a Ramrod Antenna+ direct. The mast shown is 21" long and overall length is 27.5". The base, a 4x6 adjustable tilt and right and up and down. The handle is fully adjustable the length of the base. The mast is corrugated aluminum. Available in the color of your choice. The cost is approximately $ to $ but the website has most information: www.jdwoodworks.com

Ozark Miniatures, Inc., 4 1/2 ft. Cedar City, UT 84720, has released several all wood type kits. These are made of basic cedar and pine and can be used permanently outdoors. They are adjustable, with a maximum height of 3'. Bolts are 12 volts. See Ozark's website for pricing and styles: www.ozark-miniatures.com

Precision Products, Inc., 1 1/2 ft. W. Cedar City, UT 84720, has plastic door and window insert for large-scale models. Sheets are 12" x 12" and are made of a custom-molded material with an outdoor lifespan of approximately 10 years. The material contains UV and rubber compounds for durability. The sizes listed above have 12" insertion and every door. Many other styles are also available. See the website for pricing and orders: www.precision-

LGB/Lemaco, Inc., 1 1/2 ft. W. Cedar City, UT 84720, has seven sheets 600 decal sets for large-scale trains. Decals are detailed lines, wheel rolling stock and the greens. Large-scale decals come in 1:22.5, 1:24, and 1:29.1 scales. See the website for pricing and other items: www.lemaco.com

Track products

Kibri/Viessmann, PO Box 1147, Lake Geneva, WI 53147, offers a complete track

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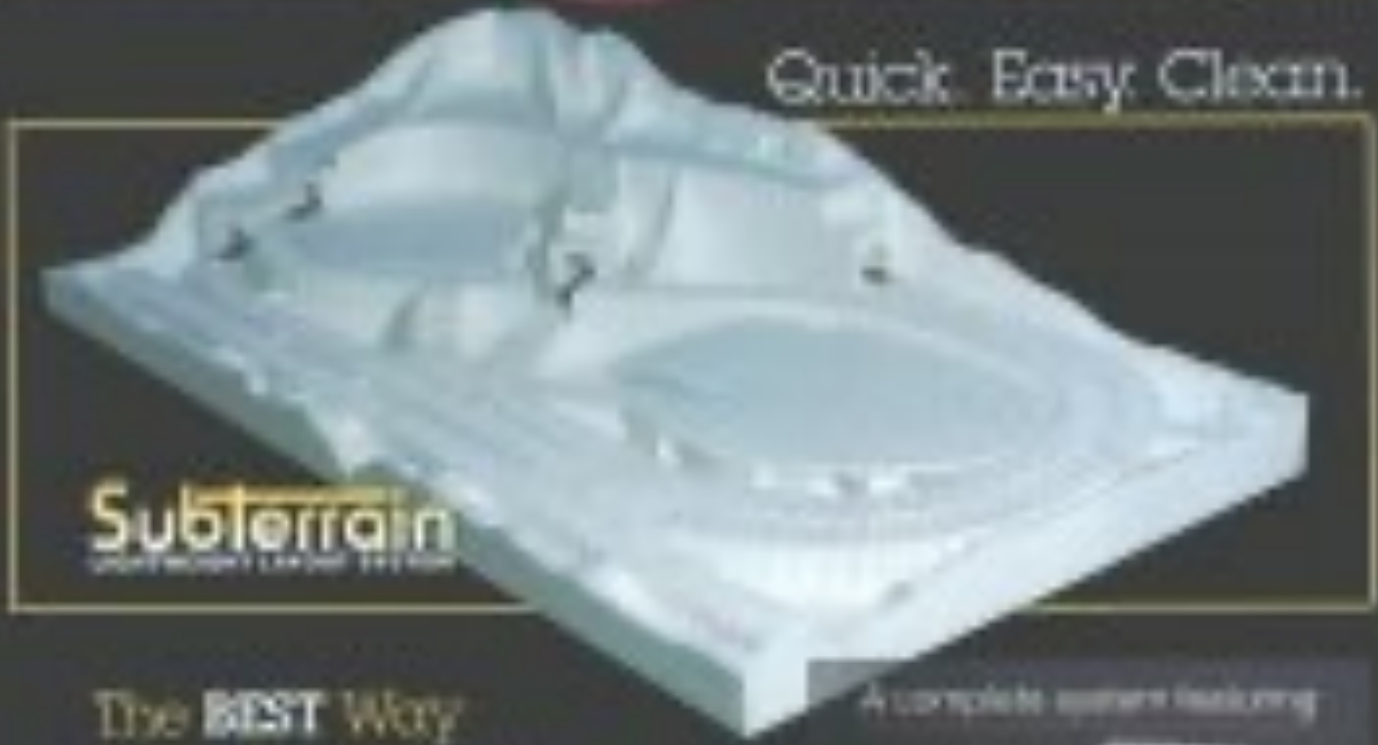

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suspended railroad system, giving the fox very few ways you're floating on air. There are no metal structures or wood beams to block the view of the water. Starting price for a 12' x 15' house is $12,344.95. Website: skyscrapercity.com

Tools

Rubber-ell-ate World (24-3 Ave. No. 3 mailbox 919 1400) has made rubber in 12" and 18" styles. Rubbers are available in 3 X 5 X 2 (6.3 X 3.15 X 5.0cm, 1.25 ounces) styles. Prices: 12" Bay 25", $26. Website: Rubber-ell-ate World.com

Electronics & software

Dallas Electronics, Inc. (Box 99, Mountain Lucky MS 37549) has a new piezo-operated control panel system for DCC users. Sound systems both have and does operations sounds, as well as others as well sounds. Each of these can be individually selected and the horn can be manually operated. The system is available for any different size "on electric" and puts NMRA "all-electric." The "on electric" features an operations sounds and an operated horn. There versions are available for DC, DCC, "AC" and other applications. Visit the company's website for complete information and pricing: www.dallas.com

Traction Club offers dozens of rail engines for model railroads. Each 9" x 1½" sheet is 1/64" thick and has an outer or plastic molding on either side. It is easy to cut them with a knife, and solder. Price: $1.50 each + s&h. Website: www.tractionclub.com

The Scale Trade closed its doors on December 31, 2012, according to an email from Eugene Dale written to Steam Railroading Institute members. The Scale Coach line operated in Garden Railroad in 1994-96 at 1/8 scale (see note). Website: www.thescaletrade.com

Garden Railroad Award winners for 2012 will soon be available. There can be ordered from Kalmbach Publishing Company by phone at 800-533-6644 (outside the U.S. 262-796-8776) or by emailing customerservice@kalmbach.com. Prices: $40.00 + s&h.

Penn Hill Garden Railways will be out of the 2012 GR guide per next available. Go to PHGR website, click on website at www.GardenRailways.com and click on "GR award winner" under "Our magazines." Win a paper version, send a large SASE to Garden Railways, 21027 Penn Hill Rd., Waukesha, WI 53187-1612.

The Association of Indoor Narrow Gauge Modellers had a busy year in 2012. The organization is possibly the largest garden railway club in the world. Late February also published a special magazine on the Pontypool Queen Railway. There several other way as a new "GARG" opens from scratch (with 150 exhibitors) and 1,600 visitors. By August, membership passed 1,000, still growing numbers to North America. The next rail meetings will many miles away.

In the December 2012 issue, the website for **Black Bear Construction Company** was listed incorrectly as "Trucks-r-us.com." The correct address is www.blackbear.com. We regret the error and any inconvenience caused to it. ■

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BY STEVE BRECKLEY

A new shop for Iowa Interstate

Shop features enclosed tracks to work on four six-axle locomotives and a separate covered fuel pad

Iowa Interstate 3 (GE) No. 305 sits on one of two tracks that give the railroad the capability to work on four six-axle locomotives simultaneously. Construction also included

Iowa Interstate machinist electrician Ted Wiley took pride in the new shop building.

If you have ever driven Interstate 35 between Kansas City and Des Moines, Iowa, you've probably seen the Iowa Interstate Railroad locomotives that operate on the line. The railroad's blue-and-yellow locomotives are a familiar sight to motorists who travel the busy highway.

Iowa Interstate's headquarters are in Cedar Rapids, Iowa, but the railroad's operations center is in Boone, Iowa, about 30 miles northwest of Des Moines. The railroad's locomotive shop is also in Boone.

Until recently, the shop was a cramped facility that could accommodate only two locomotives at a time. Iowa Interstate's locomotive fleet has grown to 50 units, and the railroad's management decided it was time to build a new shop.

The new shop, which opened in October 2012, has four tracks that can accommodate six locomotives at a time. Two of the tracks are enclosed by the building, and the other two are outside. The shop also has a separate fueling pad.

Iowa Interstate's new shop is a welcome addition for the railroad's employees. Machinist Ted Wiley, who has worked for the railroad for 15 years, said the new shop is a big improvement over the railroad's old facility.

"The old shop was very cramped," Wiley said. "We had to work on locomotives outside in the winter, and it was very cold. The new shop is much more comfortable."

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Brandon R. Miller

Last AC holdout falls

Canadian National takes delivery of AC traction units

CN No. 2501, leader GE's 4-by-7th... deep grey in revenue to MacMillan Yard in Toronto for salvage on Nov. 23.

BNSF puts SD60Ms back into service

Last of 53 rebuilt, repainted VIA F40s

VIA Rail Canada (F40PH-2 No. 6453) is the last locomotive to emerge from a multi-year overhaul at its F40 shops that began in 2008. VIA used 53 locomotives in 1981 Railway Industries in Lachine, Que., in groups of eight for full overhaul and paint. The units were reclassified from F40PH-2Bs to F40PH-2s. No. 6453 was one of the last VIA F40PH-2Bs built in 1989 by GMD in London, Ont.

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Amtrak Downeaster train No. 691 greets travelers at the new high-level platform in Freeport, Maine, on Nov. 2, 2012.

Maine train extends to Brunswick

Federal money adds 29 miles to 'Downeaster' route, but extreme local focus has made the train a success

"Improvement opportunities come and go that will serve Amtrak and the Downeaster as 'be ready,'" he says Northern New England Passenger Rail Authority (NNEPRA) Executive Director Patricia Quinn, at the state's only signature train. The authority is responsible for the 116-mile Downeaster corridor that links Boston to Portland, Maine, which began with their second stop on Dec. 17, 1995, stretched to Lake Island 37.5 miles to Brunswick, Maine, on Nov. 1, 2012. The extension, upgraded with a $38.1 million American Recovery and Reinvestment Act high-speed rail grant, has cut a scheduled passenger train in 1964 when Maine's namesake Freeport, Maine, by then aged Yankee trade, over 90, with the lead to be in Harvard's.

Right before the Downeaster first began in 1995, the federal government committed $11.2 million to study an extension of the route to Brunswick and then Ayer Mill/Lowell, Mass., a 70-mile trip. Several alternatives were considered, including a new route from Boston to Brunswick via Portland, but the authority and Pan Am Railways, which owns the tracks, decided to upgrade the existing line between Portland and Brunswick.

Work began in 2010 and included the construction of a new station in Freeport, Maine, and the replacement of 29 miles of jointed track with continuous welded rail, the installation of 29 new signals, and the construction of a new bridge over the Androscoggin River in Brunswick. The project also included the construction of a new station in Freeport, Maine, and the replacement of 29 miles of jointed track with continuous welded rail, the installation of 29 new signals, and the construction of a new bridge over the Androscoggin River in Brunswick.

The work required to bring the track up to Class 4 track standards to support speeds of 79 mph, as well as the construction of a new bridge over the Androscoggin River in Brunswick. The project also included the construction of a new station in Freeport, Maine, and the replacement of 29 miles of jointed track with continuous welded rail, the installation of 29 new signals, and the construction of a new bridge over the Androscoggin River in Brunswick.

Patricia Quinn Smith and Wayne Davis prove Amtrakcessible wheelchair-boarding riders.

Market Leadership Division of operations.

"Two years went by in a — we blame Sept.," understands Vice President, Northeast Customer Service Stacey Fisher, subtly noting the delayed Moorestown train. "Not our finest moment," Amtrak's Joe Dhanaraja former, & Interim, referred to Christ as "the father of the Chairmobile" at Pompano celebrated a statement to this laborious efforts since 1999 to educate elevated officials on the benefits of building passenger rail.

The corridor's growth from 3½ 744 passengers in fiscal 1999 to over 11 to 2012, however, has been a mixed affair, quarter-backed largely by Amtrak's Quinn. Her small energetic staff also oversees relationships Portland transit operations and maintenance personnel, benefits Sprinter lines with rail operators, and the Transbay Northeast as transit and transit-rich industries, each kept off those riders coming from Capitol rules that established capital commitment over the seven five-employed basic transit-lanes using with a 50% subsidy cap.

While Quinn and Davis can both spread of time for the Chairmobile has rules, that network against improving connectivity to cater from the regulations. "We cannot a large proximity for Moorestown Amtrak to be an on-call, operation afterwards," she is sure, "and we will also work to build a maintenance bay at the Pittsburgh site to allow state their bike commuting relative trains and try to add capacity at the one terminal doesn't happen. As with the new services," Quinn concludes, "we'll take the train into the Brightsides, we'll build accommodations, and continue to build from there."

The first train arrives at the high-level Moorestown, Mass., platform on Nov. 1, 2012.

>> First Oregon Talgo heads for testing

The first new Talgo Series 8 trainset leaves its Milwaukee, Wis., assembly plant on Nov. 29, 2012, bound for testing and certification at the Transportation Technology Center Inc., in Pueblo, Colo. Wisconsin & Southern and BNSF Railway handled the four-day, 2,267-mile move via their interchange at Crawford, Wis., using an American Loco-to-broadcast Sea-trailcraft Dash-8-40BW cabin and a Horizon cafe at one end, a Horizon cafe, shortfloor cafe, and converted baggage car at the other. The 13-unit train is one of two built by Talgo for the state of Oregon for use in Amtrak Cascades service between Eugene, Ore., and Vancouver, B.C. Once the first trainset is certified, the second Oregon train will move to Seattle, where the Cascades fleet is based. Two other Series 8 trainsets built by Talgo for the state of Wisconsin will remain in Milwaukee while a lawsuit court decides a breach-of-contract suit filed by the builder against the state (see January 2013 Trains). If the tests go well, Oregon's new Talgos could begin revenue service in spring 2013. Talgo Staff via Twitter

>> VIA cars aid Amtrak's Thanksgiving rush

After pumping millions of gallons of Hurricane Sandy seawater from its New York area tunnels in early November, and marshaling a supersized Amazing 16-car, electric celebration, Amtrak still provided extra cars and frequencies for its annual Thanksgiving peak rush, albeit with a few new tools. In the Northeast, Amtrak borrowed 10 stainless steel coaches and two Park dome-lounge cars from VIA Rail Canada for use on the Albany-Rensselaer, N.Y., to Montreal portion of the Adirondack service, runs northbound at Port Henry, N.Y., on Nov. 24, 2012. That allowed one of Amtrak's two Adirondack trainsets to shuttle riders to and from New York/Penn Station, with an across-platform transfer at Albany, while the other set helped expand Northeast Corridor capacity by 440 seats. Elsewhere, Amtrak added 11 extra trains between Seattle and Portland, Ore., and 19 extra Midwest trains over Thanksgiving weekend, including first-time extras from Chicago to Quincy, Ill., and Ann Arbor, Mich. Justin Franz

BY DAVID J. ALT

Reducing damage in axles

A new process increases fatigue resistance in axles without changes to design or alloy enhancements

Axles are normally one of the most hidden components in railroading, but they are vitally important to the railroad safe operation of the entire industry. New technology may make axles more resistant to damage from stress and flying debris. TRI-STATE TRUCK AND AXLE

Axles are a critical component on every piece of rolling stock and most others, but relatively few US users of the ever-growing catastrophic effect appears across the country via information in newspapers and online. Broadly, both of fatigue failures are triggered by damage to the outer body of the axle when ballast or other debris strikes and then starts an progress the axle. The other type of fatigue failures begin in the wheel seat or journal fillet areas where corrosion or fretting have their occurs between two materials that expand

more severe, where residual compressive the integrity of the steel.

Of course, regular inspection for axle damage remains the most logical method for preventing fatigue failure in axles. Still, railroad component experts from this all, discuss the latest trends in manufacturing, perspective, developing more fatigue re- railroad steel grades or increasing the axle's diameter to reduce operating stresses. Standard Steel in Pennsylvania, the manufacturer of forged steel axles used almost the the railroad industry, recently unveiled a

ent pressure for improving the resistance to fatigue damage in axles is changing the that axles are protected or coated to an more enough at machine and inspect conditions.

Traditionally, metal axles are cleaned, and grounded, or completely entirenight in a bath of quenching medium, most oil, but water, caustic water, or a more liquid polymer. Under this standard heat pro- cess, specific areas a ignored directly on the steel body of the axle, which the properties that guard against fatigue fail- ure are the most critical to develop.

"The better way you can remove heat across the cross-body of the axle, the better the properties of the steel, including higher yield strength, higher fatigue life, and higher tensile strength," says Steven Hud- nall, manager of manufacturing engi- neering at Standard Steel.

In a high-pressure process at Standard, axles being cooling rates such a water with and product mixture, who ranks are the cross-body of the axle and not the interi- ponent from end to end.

"If we were to apply quench the entire axle, then the product would be difficult to machine after it leaves our facility," Hudnall explains. "Most of the steps that do machining on axles are high- pressure lathe steps and decreased machinability rates and more productivity tooling to machine." Hudnall further explains that after quenching the middle of an axle is also a machining location. That's the most desirable location to prevent tensile damage, whereas the wheel seats, dust cap, and journal are protected by the fixtur- ing, and rings and both of the wheel.

Where some specifying a quench through the middle of the fatigue process

Damage to axles can have catastrophic, and expensive, results as the most. Derailments like this one related one on CSX at Painter, Ohio, on March 17, 2005, can cause extensive damage to the physical plant, and even require replacing entire locomotives.

PTC makes NTSB's 'most wanted' list

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Great Midwest Train Show CHICAGO

This unusual track and signal arrangement keeps the main tracks and signal heads in the proper relationship on the CSX in Grand Blanc, Mich. The photo looks south toward the village of Holly, about eight miles away. Matt Kinzler photo

Extending a yard lead

I discovered this unusual track arrangement on CSX at Fort Grand Blanc, Mich., and I'm wondering how it may have come about. The track to the right looks like considering a modern weight lift by operation. A signal mast sits a slight counter on a separate. Richard Shrader • Grand Blanc, Mich.

Prototype industrial tracks are built to provide efficient access to railroad customers' trackside plants. In both cases there are some obvious, or sometimes not-so-obvious, reasons why the track is laid out as it is.

The location has a couple of factors that probably affected the track arrangement. Judging from the signal arms, the location is at the east end of a seven-controlled siding on a 1-mile-plus (1-mile + more) CTC system. The track has a switch with a controlled siding alongside. The signal displays indications on the main line and the siding. Since the eastbound track isn't signaled, it's placed to the right of the signal to keep the CTC signal indications properly oriented to their respective tracks.

I checked a Google aerial photo of the location, and it revealed the whole story. The photo is looking south toward the siding switch, right under the signal bridge. A wide swath of the location shows a small yard that was built at an angle to the main track. The switch on the photo is an extended switch lead that eventually joins the main track another 1/2 mile further south. This long yard track allowed a switcher to pull a car or cars far enough south to clear a cross-over that permitted direct access between the CTC siding and the yard track. This allowed a southbound road train to cross the yard to make a set-out or pick up.

The photo was taken with a telephoto lens because the curve to the right and the S-curve just beyond the signal are actually much greater than they appear.

Jim Hodges • Grand Blanc, Mich.

Locomotive speedometer

I'd like to find out how engineers know how fast their train is moving. Do locomotives have speedometers like automobiles?

Scott Edwards, Denton, KS

Federal regulations require all road diesel locomotives to have a working speed indicator (speedometer). It must be clearly readable from the engineer's normal operating position under all lighting conditions. The regulations also require the engineer to test the speed indicator's accuracy as soon as possible after departure for trains in assigned runs. A main speed chart is printed in the engineer conductor's run-over instructions.

The photo below shows a typical speed indicator mounted on top of the engineer's control stand in a Burlington Zephyr E unit. The hanged here on top is a Rapid speed-over-ground recorder that produced a paper tape record of the speed, distance, time, distance, throttle settings, and brake applications. As you can see in the photo, operating by pointing a report pile-rack ring.

Most diesel locomotives were built before speed indicators were required, so engineers depended on the speed of the locomotive and timing mile posts to keep their speed. Engineers Handbook Locomotive Cyclopedia published in the 1940s, contains a note stating only a few years were required speed indicators on every locomotive at that time. — Ed.

The speed indicator on the left shows that Chicago, Burlington & Quincy Road Freedom 9911, Chicago–Twin Cities No. 21, the Empire Builder, running at 90 mph along the Mississippi River near East Dubuque, Ill. Jim Scott photo

John Hedigan

Remote-control locomotives

I read Cody Simon's article about remote control locomotives in the November 2013 *Model Railroader* and wonder why railroads and engineers would want this feature. Or not. It exposes the engineers to the weather as well as the possibility of injury if he's hit by equipment.

Michael Kravosky, Nanticoke, Pa.

Railroads tend to use remote control locomotives in special applications that involve repetitive short movements such as unloading coal with a rotary dumper. The operator also may ride the dumper to remove the loads ahead rise or run in a new load every 4–5 dump cycle. Otherwise, he boards the engine and pulls the empty train and sets the cycle and the engine. Then he moves the engine over to the next car at 10 or 15 mph and gets back into position. After losing the last car, the empty moves the operator walks back to the dumper to begin the next cycle.

Remote control road engines are also found in industrial locations where only a few cars are switched. One major use is to move cars between a few customers and don't run for short distances.

There's another area where remote control locomotives or locomotives with multiple operators are likely to become more common. Railroads are running longer trains and have more locomotives in the consist. Some railroads are also running trains with distributed power, where locomotives are placed in the middle of the train as well as on the front and rear. Distributed power helps reduce the stress on the couplers and draft gear. Some railroads are running trains with as many as 10 locomotives. Having a crew member in the middle of the train to operate the locomotives is a safety issue.

Safety is a big concern but anyone working for railroad on the locomotive must be equipped and have worked with hiring hired. Complete unit train shipments or finite trains are coupled. Weather and track are a concern as well. Locomotive engineers are trained to monitoring problems.

The railroad eventually wears a few pounds and that has a direct impact on the railroad's profit so railroads demand every last locomotive they can get. At the same time, railroads want the locomotive to earn forward the straightest route possible.

Send your questions about architecture, railroading or information there *Model Railroader* magazine, P.O. Box 1612, Waukesha, WI 53187, or e-mail mrmail@kalmbach.com. We regret we can't answer all the questions we receive.

Tracklaying: adhesives, nails, or spikes?

Track and roadbed can be fastened to foam insulation board with construction adhesives made for use with the foamboard. Apply a ¼" bead along the center line, use a putty knife to spread it in a thin layer, and press the roadbed down into place. Hold weights in place while the adhesive sets. Then the next day, the same procedure can be used to secure the track to the roadbed. Jim Hediger photo

Should sweetbreading be a direct bearing on how railroads are portrayed, or rather the mess on the grand old age of 19 gay off in a seventh-spanning sense.

Roadbed is used under most track to emulate the look of crushed rock that supports prototype track. Wood cork or flocked plastic foam roadbed comes ready-to-install under narrow-gauge track.

A track center line is needed to install the roadbed. Cork roadbed comes in one piece so the tapered edge go to the outside. Apply a bead of construction adhesive along the center line, spread it over it with a putty knife, and then place each bit of the cork roadbed on the adhesive as you follow the center line.

If the layout is made of foam insulation board, as our Lionel's Hi-Rail Track Road Construction Adhesive (www.lionelpostwar.com), or Liquid Nails Project & Foundation adhesive (www.liquidnails.com). Use method requires weighting or pinning the roadbed down snugly to allow the adhesive to set.

Woodland Scenics makes Track that is foam plastic roadbed for HO, N, and O scales and Flextrack Cork roadbed track. Nails for use in securing the track that.

Or a wood subbase. Flexible roadbed can be nailed down with ½" flat head wire nails instead of using adhesive.

After the cork roadbed is secure, I use a floating hardware brick plane to smooth and level the top surface and gently round off the top corners for ballasting.

Laying the track a month a number of tracklaying at one point and then carefully fitting the rail joiner into the joiners as you work over and around the track plan. I usually work at a comfortable pace so I can carefully align all of the components. Then I might along the way to make sure everything is straight.

Some brands of sectional track have rigid, molded plastic sectional roadbed with a track ballast texture. Most of these sectional pieces include small mounting holes so the roadbed can be nailed to the benchtop. Others have their sharing points predrilled so one can drill the holes as needed.

What nails do. Until the black track nails and Peco offers on. It, no pins that are perfect for this job. We the rail joiners together and bring the track pin right enough to secure the rigid, plastic roadbed without distorting its shape. A nail set is handy for this job so you don't bit and damage the cork or roadbed.

The rail sectional roadbed can also be secured with construction adhesive. Just spread the adhesive a little wider so the plastic edges are covered. Then add a few nails to hold the roadbed sections down while the adhesive sets.

Construction adhesive can also be used to secure the track. I like to the track components before loosening them while I apply a thin layer of adhesive on top of the roadbed. Use caution to avoid applying adhesive under the ballast and to the points to keep the adhesive from working up between the rail and where it may produce unwanted problems and the two locations for the switch points.

Track can also be spiked or nailed down using the small brass nailhead that the Kor the Kor program. Todd helps mark the track center line and then mark it for spacing up with a small drill. I drive the nails down 4" to 5" apart so that to wing without distorting the ties.

Spike holes are molded close to the rails on both sides. Use a pair of long nose pliers or Micro Mark's no. 82834 spiking pliers to insert and drive the spikes. Crop the top half of the spike in the pliers at an offset head face the rail with the wide body of the spike inching and below. Insert the spike at the hole at a slight angle and press a drive until the pliers mark the tie. Release the spike. Aura the plate, and use the flat side of the tie to gently press the spike home. – Jim Hediger, senior editor

A nailset allows you to drive the nails through the holes in the track plastic roadbed without damaging the rails

Workshop Tips are the best way for customers to share their model railroading and layout-building questions and tips. Workshop Tips, Model Railroader magazine, P.O. Box 1612, Waukesha, WI 53187, or e-mail workshop@kalmbach.com. We regret we can't answer all the questions we receive. There is no payment for questions we use and no correspondence.

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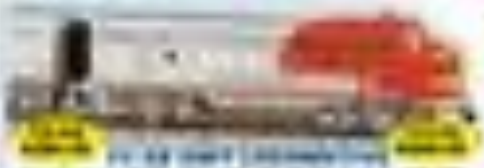

"ULTIMATE SERIES"

"ULTIMATE SERIES"

"ULTIMATE SERIES"

Automation in the garden: Part 4 — alternating trains

Sam Brand (left) and I were mesmerized by the sight of Bluebell Station before it was time for the first evening multiple trains running around the railroad with mixed interest, as soon we were always seeing the seven trains running through the garden. A passing siding in front of a station is a natural place to stop two trains, though each siding can also be hidden from view a long the route generating where the train went.

Train
Train
Switch
Switch
Switch
Railway runs in electrically isolated from loop
Switch 1 must be powered, switch 2 can be unpowered
Distance from sensor to switch 1 must be greater than the length of the longest train, plus the sensor will trigger that switch as it is thrown

Figure 1
Alternate running of two trains on a single loop with passing siding

When I was a kid I was a railroad, as which I was able to follow the trains all the way around the track. When the train came back I was surprised to see it emerge from the other side! Imagine my surprise when a different train came out. The railroad was built with a hidden loop and passing siding inside the mountain. When one train reversed, it triggered the second train to exit.

Each stage is where the foundations of the current construction project are built and are achievable. Multiple trains with mixed interest could have run more than interesting forward turning the train some of the time. In this installment I'll talk about the simplest version of automatic alternating train operation around a railroad. We'll combine a passing siding on a loop that will allow two trains to safely cross each other around the loop. The passing siding would automatically be switched in front of a train as either train pulls into the siding, and the other train would continue around the loop.

LED / PT components (right to left): the switch machine, SPDT momentary switch (attached for illustration), and magnetic reed sensor (with cover removed)

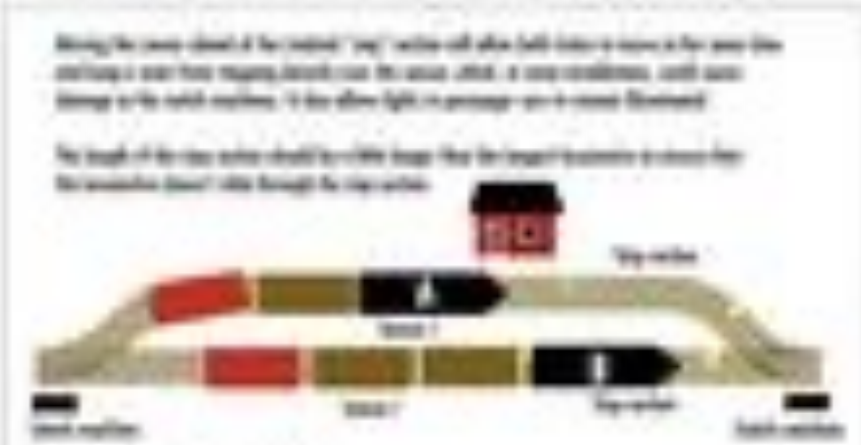

Figure 2 – sensor placement

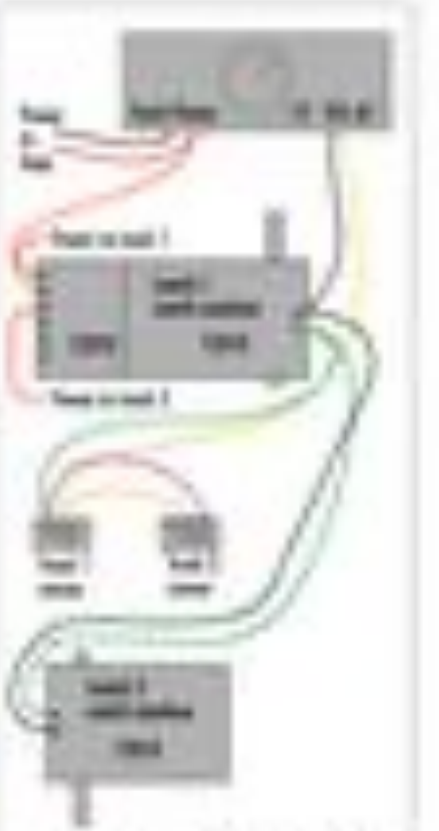

Figure 3 – LED component wiring

stopped. But, as in the case of the solenoid I described, the voltage could be isolated from every arduino's power connection to the servos.

How it works

Three things need to happen for the kind of automation to work properly. First you need to be able to determine when a train enters the passing siding. Second you need to shut the power off to that track and throw it to the other, in order to avoid that nasty go-to-zero. Third, you need to be able to control the switches in the passing siding so the trains don't hit each other (**Figure 1**).

The first component – determining the location of the train – is the key part of the process. So we're now in the position of the sensor, most common are the magnetic or reed switch (sometimes called magnetic proximity sensor). (Photo-cell and scanning current-detecting sensor is either too expensive or too complex for this project.) Reed switches are normally open, but when a magnetic field is introduced, the switch closes, completing the circuit. Reed switches are available in a variety of sizes and shapes, but I used the cheapest I could find, which were the ones pictured above. They're activated by a magnet, which is mounted on the underside of the locomotive. Ideally, you want the magnet to be as close to the track as possible, but not so close that it scrapes along the ballast and causes derailments. I found that mounting the magnet on the front truck of the locomotive, as close to the wheels as possible, worked well.

Now, where to put the sensors? Well, that depends on the length of your train. You want the sensor to be activated by the locomotive, but not by the cars behind it. Figure 2 shows the placement I used for my 4-car train. Sensor 1 is placed about 1" (25mm) before the stop section, and Sensor 2 is placed about 1" (25mm) after the stop section. This means that the locomotive will activate Sensor 1 before the last car has entered the passing siding, and Sensor 2 will be activated by the locomotive before the first car has left the siding. Experiment with your own train to find the best placement.

Now that you've determined where the sensors will be placed, you need to wire them to the Arduino. Figure 3 shows the wiring for the sensors and LEDs. Each sensor has two wires, which connect to a digital input pin and ground. The LEDs are wired in series with a 220Ω resistor, which limits the current to a safe level. The LEDs are connected to digital output pins and ground.

Next, you need to wire the switch machine to the Arduino. The switch machine has two wires, which connect to the common and normally closed terminals of the SPDT momentary switch. The normally open terminal is connected to the positive terminal of the power supply, and the negative terminal of the power supply is connected to the negative terminal of the power supply. The switch machine is powered by the power supply, and the switch is controlled by the Arduino.

The Arduino is programmed to read the sensors and control the switch machine. When a train enters the passing siding, the Arduino detects the magnetic field and activates the switch machine, which changes the position of the switch. The Arduino then waits for the train to leave the passing siding, and then deactivates the switch machine, returning the switch to its original position.

The Arduino code is relatively simple, and can be easily modified to suit your specific needs. For example, you could add additional sensors to detect the presence of trains in other parts of the layout, or you could add a display to show the status of the switch machine.

In conclusion, this project is a great way to learn about electronics and programming, and to add some interesting functionality to your model railroad layout. With a little bit of effort, you can create a system that will automatically control the switch machine, and make your layout more realistic and enjoyable to operate.

Figure 4 – DCC BiDirekt operation

About this series

August 2013: Early control systems
October 2013: The station stop
December 2013: Reverse loops
April 2014: Multiple trains on one loop or two trains
June 2014: Combining diesels and advanced concepts in automation

DCC BiDirekt – alternate specimen control
Photo: DCC BiDirekt

stop system. First, the engine wagon should be placed ahead of the isolating section so, when the switch is thrown, no power is via (unavailable) on. Otherwise you risk stopping the locomotive with its engine sitting over the end switch, which could bring power flowing to the switch motor and could possibly damage it. The isolating section must be long enough to contain your longest locomotive, with a little more (and if the train is a long) but enough where the locomotive enters the isolating section it's going to slide a bit as it comes to a stop (good) and might

would otherwise have hit. While the model decelerates the gradually-to-it stopping (ideally over the magnet), it also means that the train could stay through the isolating section back onto the powered track. If that happens, you've got a train stuck in there up.

DCC BiDirekt offers a simple decoupling setting control as well. This system is unique in that it uses three separate triggers to control the train: **Big gap 1**. The first triggers the switch. The second the decoupling the switch a you included on the siding control board, the company sells small switches that will control a Lilli switch, switches or any one use the KPH. (and switches.) The second trigger starts the train on the adjacent track running while the third stops the first train. (The operation of the second and third triggers is similar to other installations, where a magnetic sensor is placed to stimulate when the isolated section.) The DCC BiDirekt control has an "off" switch that will bypass the operations, allowing a train to run continuously through one, also have to work all the switch 'created.

RailKeeper (manufacturer "RailKeeper" control) (**Figure 5**) is an all-in-one unit and has that will throw the switches and create the power via switches on a the other and between trains on that point. When the magnetic sensor is triggered, the "RailMaster" sends signals to the control machine to change directions and also sends power to the appropriate isolated sections of track. As with other systems, it can place the triggering magnet in advance of the isolated track sections, and can also add second train before the first has stops.

The "RailMaster" controller also allows you to "count" laps around the loop. This enables you to run a train around the loop multiple times before it stops in the siding again and sends the next train out. The controller also has outputs that can be used to control signals, or the lights could change here and in place to accordance with which track was powered.

The "RailMaster" like the two previous systems discussed, stops the train instantly when it reaches the isolated section

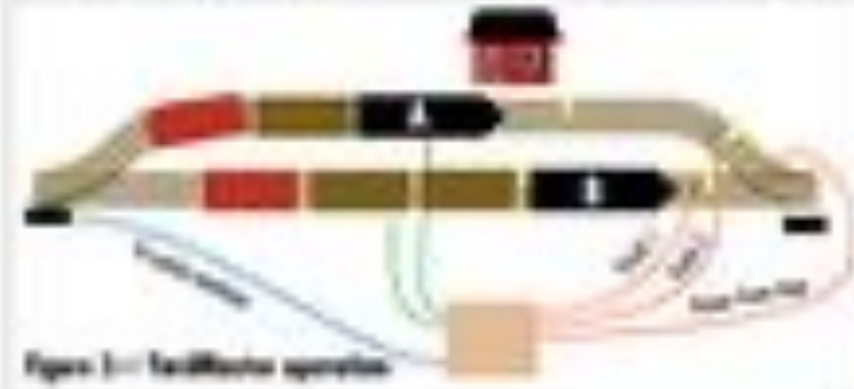

Figure 5 – RailMaster operation

RR Lounge - RailMaster control

Dallee's Grab-EIT senses the hand of the character riding control. The sequence with the wire running through it is the current sensor, which triggers the secondary assault.

With this addition, an **Ecobrawl** 4 energizer "Sweetness/Flawless" controller can now set the motor to accelerate and accelerate slowly (and end out of the voltage).

Dallee utilizes a system that does not use magnets to trigger the enemy function; it senses the current being drawn by the motor. This is good for methods we which it may not be practical to apply every accessories with a magnet to trigger the controls such as skid dolphins.

Dallee's sensors were three of their Grab-EIT sensors hooked together to control the position of the motor and points to each setting (**figure 6**). The leads on the coiling sensitive lead are identical to the others discussed above, with an additional "trip" sensor located where you want the connection to stop. Electronic control of pointing a magnetic and control under the track, just not the coil to two places to have a more "trigger" scheme of track that are wired to the current boards. As the locomotive crosses one of these isolated sections, current flows from the powered sections of track into the isolated section, it sent more than that isolated section or a power on the board. When a device senses it triggers the appropriate changes (**figure 7**).

"When would we put the example in Dallee's wiring guide, but we up a like the whole reasonable on and off. Dallee's accessories control can be added for close more and ways but the wiring becomes more complex.

"These systems can grow for running two trains on a loop, one or a more. Most times I'll look at how to mix multiple trains on the same loop at the same time, without receiving shock from colliding with each other."

Figure 6—Dallee Grab-EIT

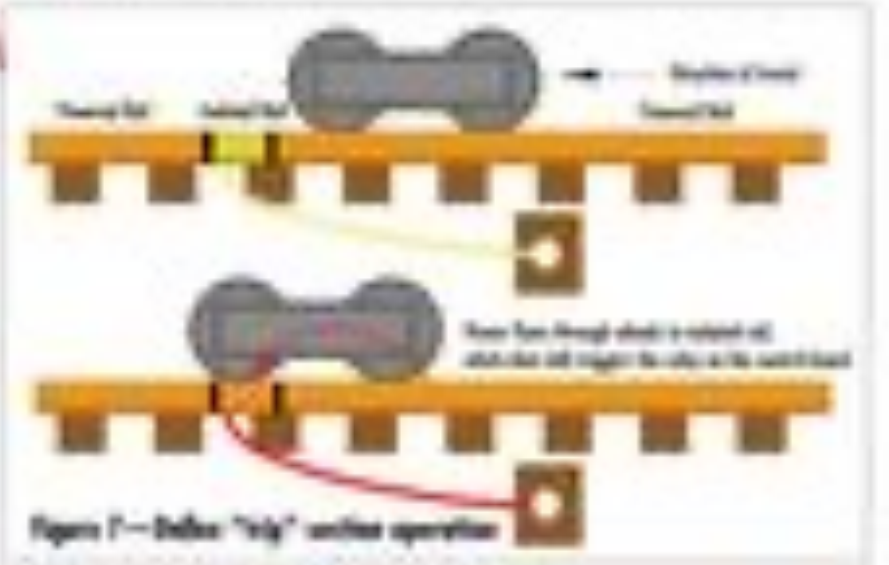
Direction of travel
Powered Rail
Isolated Rail
Powered Rail
Power from through wheels to isolated rail
which then will trigger the relay in the control board

Figure 7—Dallee "trip" section operation

Sources and parts list

Manufacturer	Product(s) used	Price
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
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Magic carpets made of steel – part 1

NEVER OVERLOOK VINTAGE TOY TRAIN FANS – OR UNDERESTIMATE ITS IMPORTANCE

"The term of 'thought' was the reason as to make these I started and learned in a layout tradition on collecting steam rings among the holiday crowds. On to rooms I talked with guests and called about our trains and the tradition of crowd celebrating. The program proved to be popular during the 10 years that it was, but then the season changed as money and con- cerned that down. I really love it.

Naturally, the show needed a memorable and entertaining theme song, one that I could play at the beginning and the end of each program. I chose what became our all-time favorite railroad jazz song, "Chattanooga Choo Choo," which was written by the late Harry Warren and sung by Glenn Miller (Miller believe also did a great version.)

Next it was time the way presents a new angle view at the city of New Orleans, the Illinois Central passenger train that traveled between Chicago and New Orleans.

Some Christmas scenes, some memorable trains, I especially liked the line to the song that described the old-fashioned train meeting on a "magic carpet made of steel."

Too often, whether we're thinking of kid cars or miniature trains, we forget all about the track. That's one fact because we all have trouble in assembling together. Many make it possible for locomotives to speed across layouts, with bright or just simple curves.

Surprisingly, considering how important track scenery are, they remained all too overlooked by the public in the past. Too bad. Many rail enthusiast track could stand for 3-inch-standard gauge trains plus its smaller O and O-27 models. T. And numerous model trains dotted on the late 1930s as railroad modelers had didn't know, after World War II.

Jose Fernandez

Meanwhile, O gauge enthusiasts were beginning on the two-rail tinplate and scenic solid for the A.C. Gilbert Co. to introduce their line. Except for the absence of a center rail, these steel rail trains with cars at the ends and the outside were like 3-rails.

Amid the only significant exceptions to what was available was Lionel's effort at greater realism with Super O track between 1957 and 1961 and Gilbert's Sharp Measurement track at 1961 and on. The more functional and advantage of Carl Lionel shortrack for their O gauge layouts, although the greatest was always available.

When I opened my toy train room, the Underground Railroad Shoppe in Terre Castle, Pa., in 1961, my operations handle different lines—they I might have sold 30 years earlier. I stocked who O-27 used O gauge straights, curves, and variables from Lionel, A. Line, others knew that were all but identical to the O gauge. Gilbert was given the A Line model with rubber treads, which was a great improvement to their operation.

Of course, I also carried hundreds of them, mail line used track. They flew off the shelf as did windshield locomotives. Plate and Lionel owned and remote-controlled switches, though would also buy much in any shape and clean it if the price was right.

Times have since changed since I got started—and generally for the better! But that is my subject for the next issue of Classic Toy Trains. See you then!

Bruce Greenberg

Fun and Friendships

www.tcamembers.org

Armstrong Electric Motors, a low-relief kit from Walthers, serves as the manufacturing portion of the Knight Level factory in Modernmagic, Wis., on the N3 scale Millennium Prairie & Troy.

How to build a low-relief structure

I used Liquid Nails to glue Rubb cladding to remove the plastic parts from the sprues. After I'd separated the parts from the sprues, I cleaned up the edges with sanding sticks, powder files, and a single-edge razor blade.

I used this Dremel corner bracket where the angle meet at right angles then I used all-purpose modelling plastic bracing cement to for interior corners, which I used here, and 4-for outside corners.

Before installing the braces and I fitted M1 screws I used a rounding stick to clean up the edges where they were attached to the spars. I then used a single edge razor blade to smooth the molding seam on the glazing faces.

Dimensioning Electric Motors can be found in one of three lengths, 3½", 1½" or 18½". I choose the longest. On a building of this length, it is possible for the plastic to sag over time. To prevent this, I attached .094" x .250" styrene strip to the interior between each floor. I carefully positioned the styrene so it wouldn't interfere with the window castings or the drill starter points for the loading deck canopy and its supports.

Thin Liquid Plastic Cement Bonds surfaces with considerable firmness. Bonds are secure in the corners creating a unitary structure. Apply the cement to the inside of the building and between the two front wall sections.

To hold the seam, I used a Micrometal to apply liquid plastic cement to the seam from the front. The glue melts the plastic and helps fill in the seam.

It's important to let the glue dry thoroughly (at least overnight, preferably 24 hours) before sanding. If you sand before the glue has completely dried, you can easily damage the plastic beyond repair.

I used a 2-step process to eliminate the joints. First, I used a mill file to loosely shape the seams. Then I used fine- and medium-grit sanding sticks to smooth the plastic.

painting the structure, I washed it in warm water with dish soap added. This removes impurities that could affect paint adhesion. I let the model air dry before spraying the brick areas with Poly Scale Matt.

Next, I masked the brick areas from the front and the window openings from the rear. One letter to keep paint off the glazing faces for the luminaire. Before painting the pilasters, I sprayed the edges of the masking tape for the brick areas Matt, ensuring the edges of the masking tape were the original colors removed the likelihood the varnish

I painted the luminaire fixtures, doors, and masking tape canopy Tarnished Black. Before installing the frames, I scraped the paint from the edges to promote a strong glue joint.

To prevent cement from oozing through the building, I applied some gap mix into the shaft used to cover to the window glazing. Then I attached the glazing with Micro Mark Liquid PVA (precision acrylic adhesive).

While the building subassembly was still wet, I used a craft knife to notch it on the lower, unfortunately. I kept leaving fortunate, leaving an unsightly gap between the building and backdrop. To fix this I used .040" x .080" and .060" x .060" styrene strip. I used a file and sanding sticks to taper the strips of styrene on the sides only.

To keep the building flat against the backdrop, I used magnetic cabinet door catches, a trick we used on our

Miniatures 4 Illustrations project team saw the Mark Wild Hand. I fit the latches pin secured to the building's roof with its maximum screws and bolts, double-sided foam tape holds steel plates to the backdrop.

I concealed the cuts on the roof with cards from Walthers Cornerstone Miniatures roof tiles set (no. 933-3153). I attached these with Liquid PVA in rows. I need to touch the window at a later date.

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Throwing light on shade

1. Under the large canopy of a mature Japanese maple tree (*Acer palmatum*, Zones 5–8) lies acid-loving understory plants, such as camellias and heaths (*Erica carnea*, Zones 5–7). Accustomed to taking over their backyard railway line, little woodpeckers may have their way in the sun.

2. Sun shines on south- or eastern-facing gardens all year, Zones 4–9 in the cool and cool Mountain. Among subway line a patch of native low-cap moss (Zones) in place in the outdoor or north side of the house.

The backbone of success in a good home is plan for as much of shade, maybe a couple weeks more for those two days we know will be here, probable where parent come or search for home. So, outdoor tree, deserves appropriate plant material or here we join a winner from the here. Unlike sunny counties these Aster to bright expensive shade lovers grow under outdoor for photosynthesis, as feather out this fence. (Read about "Power—made for shade" in the December 2012 *GR*.) Only evolutionists and their ilk not make it to have light. So, before you're into mulches and new home-selling guidebooks and shade plantings to advantage. Give two words: shade, as in **photon** (1 900 F) plus talk about planning in "spot-up" Look-down.

Shades of shade

Shadows occur on understandably neglected because of the architect's terminology describing shade plants. "Dense light shade (usually not) open shade (half and half) Light shade (under tall trees or between buildings) Dark shade (deeply hidden under thicket and forested shade (sparse sun between branches). Plain-age and book advice now mean against "any sunny shade" or "too much sun," where we would prefer to know how many hours of sunshine we get—light. (Does there's the cooler morning light and the hotter afternoon sun. You may see one hour as shade, but look at **photon** 2 for a solution to "open shade." (For visiting shade more "Does consumer" in the April 2010 issue of *GR*.)

Gardening like something to experiment shows that plants vary shade. It's fitting and gets in every way (it's electricity and bugs). To mellow contents there's also many dry shade and sunny moist shade. **Photon** 3 shows excellent gradations—

1 Welcome light sneaks under towering sidewalk, as well as underneath, exposure creates, a drive on the lowest level of plantings as the wall rises full shade (center of photo); a key Pathmaker alphine "Red Tip" (Zones 1-10) thrives in former landscape.

2 The unpretentious lawn chairs as their seat (below) shaded, shaded under a gigantic oak tree that creates shade much of the day. Tiny perennial Arabidopsis (Arabis caucasica) 'Snowcap' (Zones 1-10) sends seed pressing from a sidewalk light. Silk-wise one more (Zones Varied, Zones 1-11) thrives beneath the bench.

3 At the Chicago Botanic Garden's cottage, a model of Frank Lloyd Wright's "Fallingwater" house stands with two accenting dwarf hemlock (Tsuga canadensis 'Cole Prostrate', Zones 3-7) and upright of evergreen planters (Ilex crenata, Zones 5-9).

Regional gardening experts

Question: What recommendations do you have for railroad gardening in the shade?

Deep gardens in almost full shade of mature spruce trees, some every getting only an hour or two of sun per day in Canadian Health Z-6, with the effects created in two, crosses a three-span, through-truss bridge across a swampy lowland filled with boreal beauty, but a rich mix of grass, other than miniature plantings

The glossy, waxy-leaved Euonymus fortunei 'Emerald 'n' Gold' (zone 4–9) bears tiny, deep green leaves and blue-deep shade a sun or dark green in several places. A fairly fast-grower, maybe growing 2" a year, it doesn't get out of control

maintain routine for accumulation height and kick over, each environment for a fantastic creeping groundcover. All are hardy to Wisconsin winters.

The leaves we plant are all semi-evergreen (normally about 10 varieties. We purchase them when out of town or garden centers and online. Five favorites are *Ajuga* 'Bitsy Green', *A. 'Catlin Dark', A. 'Mount Charm', A. 'Valentine Blue', Vinca' A. 'Bitsy Purple', A. Chameleon* 'Purple' and *A. 'Rainbow Red'* (Zones 3–9). Years ago, I made the mistake of planting a creeping variety of periwinkle and am still battling the invasive stuff. It's too aggressive. I have since with the non-purple Bronze Wolf, a very plant is its bright green and is manageable as less than a previously taken-over buildings and, and everything else.

Doug Shadrow
Wentworth, Ontario, Canada, Zone 4
Other woodlily grasslands

Shady gardening introduces some significant challenges in gardening practices as our 'Northland' Editorial. Although shade is welcome to work in, it literally the whole lighter nature of summer, leaving leaves absent like wilderness under the canopy. I needed a gardener system, pumping water from a nearby lake, although drip irrigation would work as well and by more consisting of water. The soil is fragile under from the constant drop of needles needles in any organic amendments each spring to raise the pH.

For deserving forests the only shade-tolerant plantings that I can attest of are hostas (Zones 3–9), ferns (Zones 3–9), and heuchera (Zones 4–9). Many treasured species are dwarf and slow growing, with the foliage that I can shape as accidents for contrast. The only exception I have of this will grow in shade is hardrock. Dwarf hardrock varieties (Zones 4–9) include 'Tiggs creations' 'Color Fountain', 'C... 'Lavish', and 'C. 'Miss Pearl'. Greater crown I have had success with include (Zones 3), Pinus mugo (pinemeadow) and *Abies* (fragrances).

Richard Friedman
Sacramento, California, Zone 9
Shady towers

When I had a big magnolia tree in my yard, the whole yard was in shade and I had trouble growing a lot of things to grow. Even the lawn under it died. So I engineered the redwood tree that was. When I was finally able to get some growth, the tree started away and had to be removed. Additionally, all our shade-loving plants got a fresh coat of (redwood sawdust). Zones 9–10) that I planted under a flowering plum tree. Over time, due to gas leaks, though I was told they were safe to grow. Now they're looking pretty good and I would recommend them.

Ray Thomas
Twin Bays, California, Zone 9
Bright shade, Australia

The north side of my house and a gray when portion nicely complete, thanks to the care of Frank Fast Woolly rhododendrons and a bright shade, producing fully purple flowers in the spring and summer. Rosemoss can be pruned as a hedge (or to the photo below) or as a tree.

A coffee with for the fertile is no if I out of the conditions to be one get more photo before the morning we. Here's the photographer, a shrubby boxwood and semi-woolly Asiatic (Hydrangea paniculata) grandiflora. Zones 3–9 edge the pool at Ray's Myrtle Mountain Retreat

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TRAINS

THE COMPLETION OF A CHILDHOOD DREAM: AN ALL-CANADIAN O GAUGE RAILWAY

By Bruce G. Hodgson
Photos by Mike Tetrault and Ian Goodall

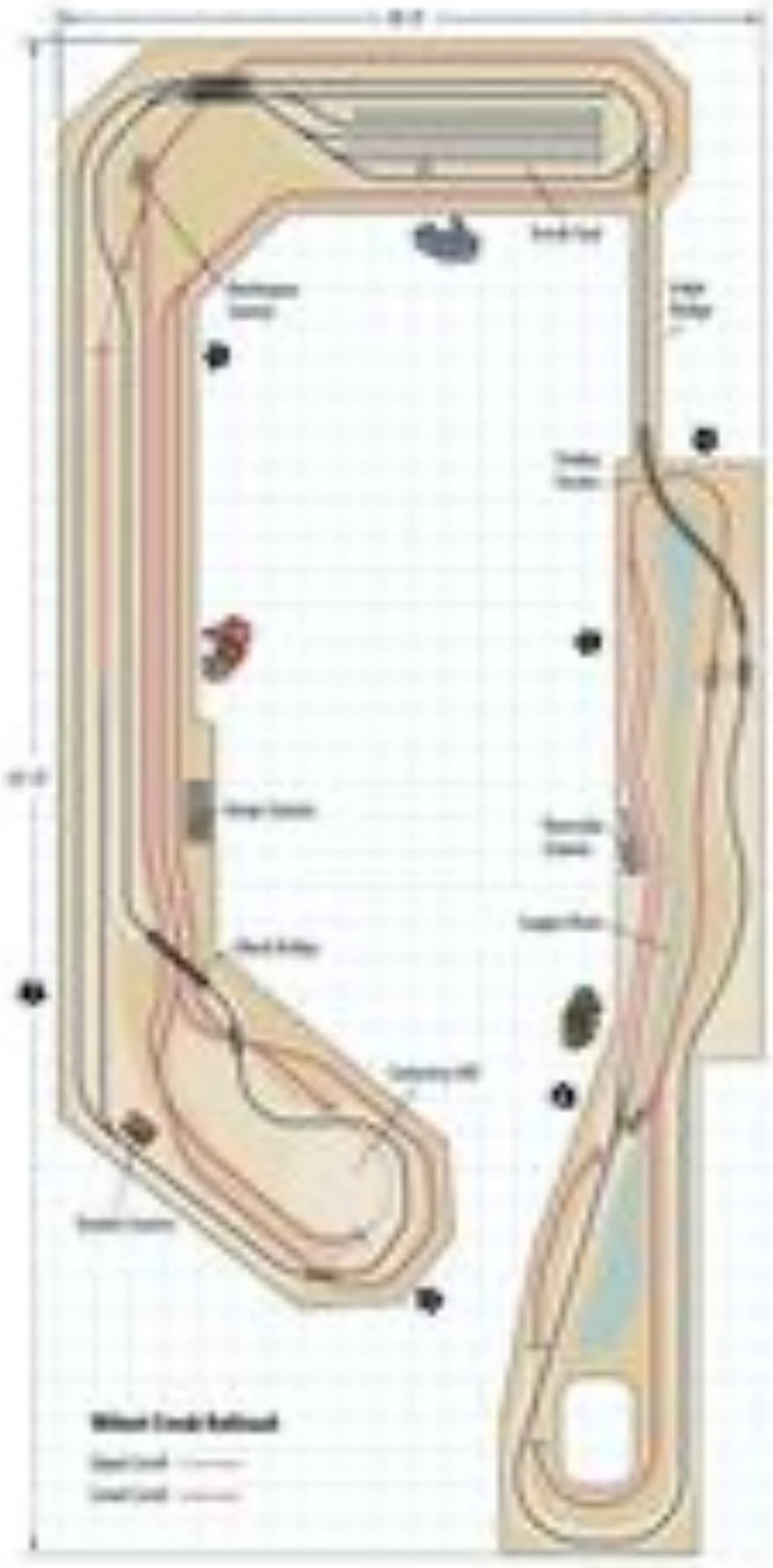
Trains have always engaged me; an old photograph shows me, in 1948, at age four fawning a Marx toy train. Six years later, a Lionel freight set was a Christmas wish come true. By the following spring my dad had built in his basement a train room for me. When that space ran out, additional tracks went through the wall and behind the coal furnace towards Mom's washtubs.

[illegible] a child's play layout eight more years as a 4 x 8 foot plywood table. In the basic rectangular pattern one for his electric, the post-WWII years [illegible]

My concrete O gauge layout was assembled in two stages. The first began in 1981 with eight years of [illegible] and finished as the basic pinwheel 40 feet long and 7 to 8 feet wide. The latter can be dismantled

Bruce G. Hodgson

[illegible] On the wide-open spaces of Canada, a Canadian Pacific Hudson waits for the Canadian National diesel freight on a mountain [illegible] trestle. Two freights pass on the lower level.



LAYOUT AT A GLANCE

Name: Bruce G. Hodgson's O-gauge Wilson Creek RR
Dimensions: 20 x 40 feet
Tracks: 6mm Scale Rail Co.
Switches: 6mm Scale Rail Co.
Motive power: 6mm steam and diesel locomotives
Rolling stock: Atlas O, K-Line, Lionel, MTH, and Weaver
Controls: Lionel Mic-1 Power House power supply, MTH DCS system
Accessories: Model Power 340 signals
Structures: Rainbow, Lionel, and MTH
Vehicles: Assorted makes
Figures: Assorted makes

Bruce's layout is his vision on railroading in Canada. Featuring a long distance and variations in grade and scenery. Photo arrives unchanged to maintain a vignette.

A front-this-view high above Trestle you never the Lancaster Rockies rising above the mainroads and prairies of southern Canada. Long, gently curving main lines help give the layout more depth than a conventional rectangular plan would.

A The workhorse of Bruce's line was the BC16 4-6-2 no. 1376. The rubber wheel engine has the agility to pull eight cars and the power to handle freight trains on the layout's sculpted inclines.

Realism and speed await the new visitor ready, waiting to the viewer.

Minutes ago in the station terrace, admirers pointed from the visitor, train room door and had have not yet reached regards not by scenery point it way between and replayed with polystyrene down.

Nothing passes with as earth was for the base and other natural colors, poked cautiously, produced realistic terrain. Engineers boldly were by the original stage of this forest grew way to swing on Branchlet trees and not Commission must on the mountains.

For perspective, rocks and cereal work grew when the large rose are arranged forward and the smaller to the rear. Still, add N scale mountains and figures around the track and at his concern pull the succ on to seem distant forensics. Fir-bomb Hill vegetab, the silent height and not for it's groups, scale and Stronghaven.

As any layout rivalry right now, a vision exists that could adorn of track as attract I cut this fusion. The forms result rely on the noticeable light scenes, close spacing, and repetitive noise of a heavy layout. It a the overall illusion or impression that, trains.

My grandsons I welcome, two kept no time when he sees the visitors with you to look "like a departing mountaineering trail train, or the end world" returns, as for sure he has to "constantly watch all the running moves and adjust speeds, directions, and what stands like you on to make sure all passengers and cargo arrive safely at their destinations."

Whether real or replica, railroads been pioneers executed and intrigued me. Derek Shore in Lionel on WCTR, wanted trains are planning in he a entertaining thinking [illegible] cars. I hope my grandchildren will enjoy about in 75 years.

From Concept to Publication

Part 1: Ideas and Camera Basics

words and photos by Bill Abell

So I've got this great idea for a book or article ...where do I begin?

In this digital age, sharing with no lower modulus is easier than ever, with new content types to display our work with conventionality and via the internet. While many modelers have considered writing about a special project or even just documenting progress on our layouts, we often have difficulty making the journey from idea to finished product. Wishing we did not need to take so many pictures, I'd like to share some guidelines, tips, and tricks

I've learned, after which have improved my modelers "processes" and have helped me eliminate potential roadblocks.

While every successful piece begins with enthusiasm and an idea, first pause to address two important questions: who's your audience, and why are you doing this?

1. Who is the target audience for your work? As an example, a feature dedicated to small-layout detail is suitable for only one small publication, but a more universal appeal. While this

9276

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1/8 second. Even direct sunlight glares when at 1/8 sec. Of course, each second doubles the difference in sensor reaction as a photograph. Here scenes span three changes in sensor exposure, a lighter range than those shown in previous samples in a darker range.

Below. Silver windows, grimes, body, trucks and decal* each look a bit different when photographed at various exposures. Including the sensor's automatic setting (Auto), it shows the range of exposures that might be used for the scene. Digital sensors offer many viewing conditions where to be pushed the limits of the light.

exposure sensor. In straightforward photography the larger the number, shorter the — also defines the "depth of field" or how far the camera will see in focus. Good model photography generally requires the longest f-stop number possible, where f/22 is a more common maximum, but the longer the f-stop number, the smaller the aperture and the less light is admitted.

Longer exposure times are usually no issue using the camera's built-in light meter, generally a two-setup-and-shoot with multi-shot mode. The meter in your mind is the camera's sensor. Variation of the sensor exposure and viewing in the — setting will make the photo lighter or darker. One concept to remember, especially in the context of model photography, is that exposure time adjusts in discrete increments. Because the higher the f-stop number, the longer the exposure time required.

Above. Even tilting a desk for an overall exposure is a "desk level" with the ability to shift back and forth, make any exposure that is not, including if to be used for desk still more photographs.

Above. While windows are a main shy as not within close, it's a good idea to perform a light-to-dark exposure of the scene. This can be done either by the camera's automatic exposure mode or manually. Here the desk is shot at a single f-stop, varying the shutter speed with a tripod used.

Drive Mode

Poor White Balance

Good White Balance

Black & Gold. Theme was planned. Photography was established with Adobe Illustrator and Photoshop on the PC. Then, the completed files were brought into Quark where all elements were brought together.

large a photograph can be reproduced at from web or stock manipulated. Generally, measured in the settings will fall in 72, 94, or 0 (Internet images are screen-res), all publications prefer the 0300 setting, which is an enormous file size that may quickly use up the available space on your memory card or your personal computer hard drive. The next best setting is the LARGE FINE jpeg option, which is generally sufficient for hobby publications.

Above: File settings for this size can generally be found in the image processing menu and are identified as Large, Medium, and Small (jpg).

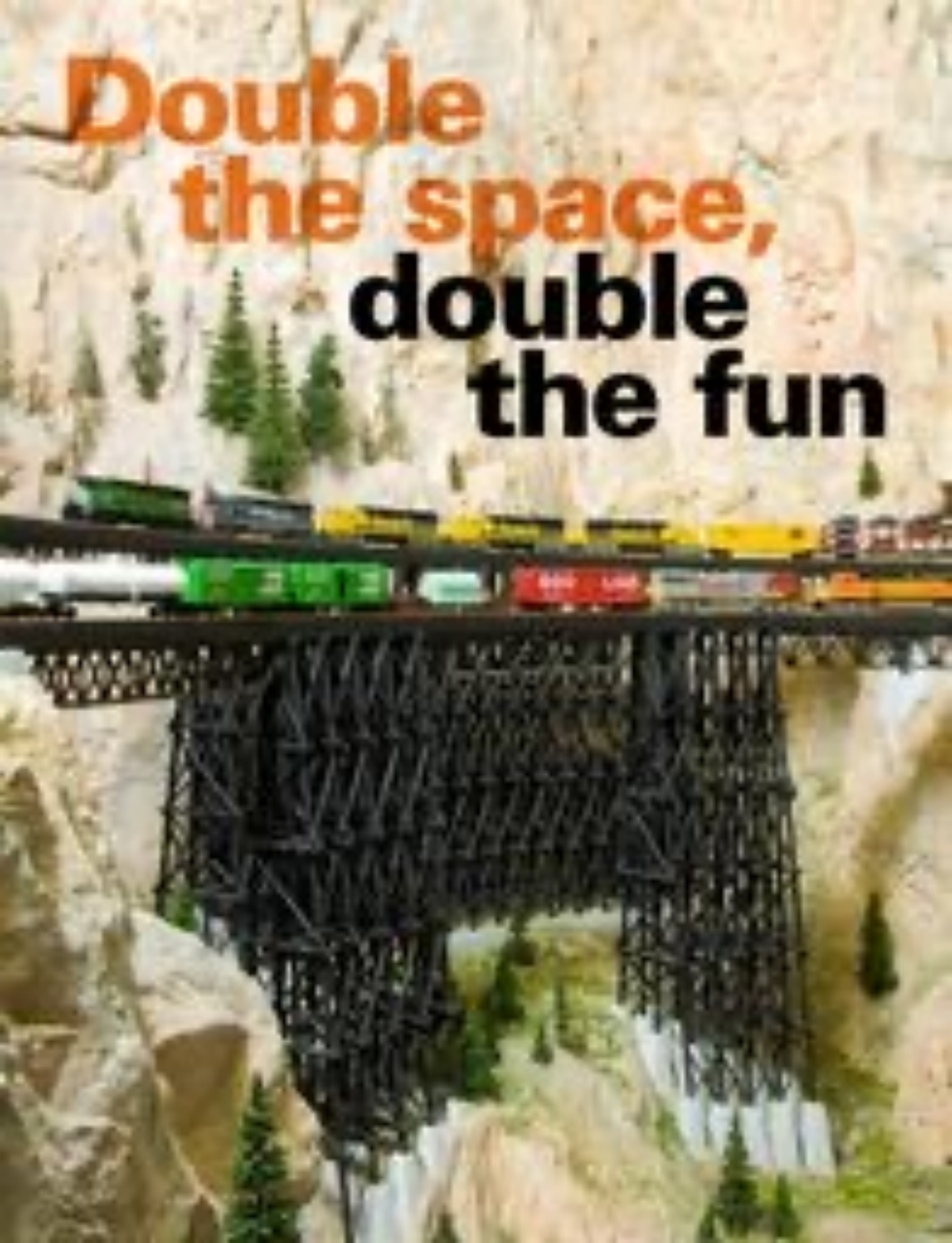
• Flash. Just one rule applies to flash photography in the context of model photography — turn it off. The concentrated light and brightness of an electronic flash will almost automatically be seen for the creation of a photograph. In the event a flash cannot be turned off, covering it with a piece of black construction paper will prevent it from overexposing a photograph. However, you may have to lengthen the exposure time of the camera to calculate the flash into the exposure to accommodate for the light eaten.

• Natural and Macro Focus. Almost anyone who has used model photography can tell a tale of fighting with the camera's auto focus. Either it wouldn't focus at all, wouldn't focus on what you wanted or had macro-mapping focus. For it became more consumer-grade cameras are designed with family outings in mind, the close-focusing software was reduced or eliminated altogether in a distance rather than few up.

The best method to overcome this issue is to use manual focus, enabling you to focus precisely what you want rather than what the camera chooses. A second method is to use macro focus, which can yield great

Quick Tip. Most of the basic rules in model photography are to use natural lighting as much as possible, turn flash off, and use a tripod to avoid the shake effect. If these photographs were taken in a studio, the lighting would be enhanced with the addition of a second light source.

Shoot as many
[illegible] as
you need.


Double
the space,
double
the fun

1. A colorful variety of motive power is on display at the Jo-mak Minnesota roundhouse. Despite the Great Northern name, James doesn't model a particular prototype railroad or era. The doors on the roundhouse are all motorized.

An N scale layout that appeared in MR 22 years ago expands with new city and mountain scenes

By James Bauer • Photos by Rob Spence

In December 1996, when our N scale railroad was first featured in *Model Railroader*, I had vague plans to expand it at some time in the future. The opportunity to do so came along a few years later, when we bought our present home. We'd built a large vacant room right next to my train room.

My wife didn't have a problem with it, so I tore a wall out and replaced it with a support beam, expanding my N × 7½ train room to 11 × 21½. This gave me more options, but the main thing I wanted

1. Trains pass through deep, craggy canyons on James Bauer's N scale Great Northern layout. Since James' model railroad appeared in the December 1996 *Model Railroader*, James has more than doubled its size, adding spectacular mountain scenes

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CONTINUED ON PAGE 44

A This overall shot of Jackson 'N-scale empire shows Kosciusko and Wheaworks in the foreground, looking toward the new section of the layout. Jackson had to increase the height of the mountain at left after his daughter said that it shouldn't be taller than the sun.

A Trains play a night game on the softball diamond at Wheaworks. Jackson included the scene because he used to play softball.

The layout at a glance

Name: Great Northern Rly
Scale: N (1/160.5)
Size: 12 x 24 feet
Prototype: Fictitious
Locale: Montana
Era: 1920s
Style: around the walls
Minimum size: 10ft 6in
Minimum radius: 9"
Minimum turnout: no. 4
Maximum grade: 3 percent
Benchwork: open grid and risering
Height: 32" to 38"
Roadbed: plywood
Track: Atlas code 100 flextrack
Scenery: Hydrocal over chicken wire
Backdrop: hand painted on vinyl
Control: DC walk-around

Great Northern Railway

A route in the Rocky Mountains between Minneapolis and Seattle, the Great Northern Railway was famous for its mountain scenery and its Mallet locomotives.

Running past Glacier and the Columbia River, the railway's mainline was a popular choice for passengers.

9. Horses Rest is more animated scenes on his layout. "I've tried to fill this niche [vignettes, and concealed machinery like hoppers with live coal loads. The darkness in the layout room is a deliberate 'atmosphere' choice."

The room itself is connected with trains and those electric sockets. One socket constantly sends ten-cent shaft, one can be up and one km down. The trains open and close doors as passes the other two stations. The first station pulls the Turbo cable up and a few seconds. Next after a few turns accurate plastic the second station surface the cable by a down. A few seconds later, the cycle repeats. I also designed an astounding area where the coal loads can be completed.

There are other automated accessories on the layout. I have a semi-trailer where grandson with each load was weighed. The cars are displayed by an animated model that belongs. I also have a scratch built sawmill with a working log conveyor made the trestling.

Raising rocky mountains

My favourite prototype is the Canadian Pacific route through the Canadian Rockies, with views of snowcapped mountains. Some of the mountains painted on my walls are inspired by the Canadian Rockies. I want to be under the impression Cowboy and I'm climbed quite a few of those in our life, so memories had to dominate this layout.

I created two years to form annual chilly and a couple of long, high mountain that also come from an old hopping in the living above our house. An upper and lower track works around this area.

The largest pinnacle starts at a base of 1 foot above the floor and rises to more than 4 feet high. A unifying work as we as aesthetic task. It was originally around a foot even, but my daughter said it showed be taller than me, so no up board accurate.

I appointed the mountains by normal rigid foam insulation and trimming. Pockets were created at the top to shape them applying thickened coatings to the frames. To make my scenic rock walls, I bricked together 12 coatings (some with small sizes than were at old brown weight). I can make all these rocks in bare rubber molds I made three molds I liked. Some of the molds I made are more than a square foot in size.

I painted the rocks with thinned acrylic paint, a little applied with spray bottles. I also brushed on a combo of grays and blacks. I painted the snow with white and added scenery with acrylics. For an attack, as this part was easy to do, I painted the snows all the trail to the ceiling.

And all the scenery is done. I've also installed modules for lighting and blender. One I put in the ceiling and one behind the top of a dimension for a the east effect. One module has one chip of blender, and the other two. There are electrical adhering blocks on the opposite of different times. But I wasn't completely satisfied because before and after they come on, there's no sound to be heard. I have a sound system in the mid small room, so I thought a blender would add to it to and love the effect in minutes. I recently purchased a Big Boy with sound and blowing to whistle as the switch of a thunderstorm is quite a pleasing effect.

I purchased a miniature video camera and installed it on a flat so I can the name of the engineer. When an added feature it is to see even believed from a different perspective. I watched to as a reference to see it at the middle of the track for a different view. While most are from a couple of inches distance in front of the camera for better viewer.

Figures and details

At first I get all painting figures for the scenes that I began to paint a few years ago after work. Now I have more

A Big Sky Log Distributors in west-central Missouri, hard on the rail part of the layout, owner, a professional railroad artist, hand-painted the realistic Rustic Mountain backdrops.

Meet James Bauer

James Bauer is a wildlife and landscape artist who studied art at the University of Montana. His detailed art style earned him credit in painting the layout's realistic backgrounds. He lives in Lolo, Mont., among the mountains he loves. "Though snow months has curtailed my mountain climbing and sports activities, in addition to model railroading he still enjoys photography, fishing, and anything else to do with the great outdoors."

RAILROAD MODEL CRAFTSMAN

PERSPECTIVE

Perpetual Adoration

Built using a Life-Like Proto 2000 FA-2, this HO scale model of a MLW FPA-4 is painted in the as-delivered green and yellow CN scheme.

Building a classic cab unit – the MLW FPA-4: Pt. I

A Life-Like Proto 2000 FA-2 is the starting point for this model **James Whalley**

For aficionados of FA-series cab unit diesel locomotives, and the crews who model the Canadian National Railway, the years 1957 to 1960 marked the culmination of a 20+ year period in which Montreal Locomotive Works (the Canadian affiliate of Alco) FA-1 and later units dominated. However, these units often lacked the power and hauling capacity that CN's growing traffic demanded, especially the suggested methods for working with step gaps (as set at Boston) had to be put to practical use, and most of the existing motorpower including the use of locomotive-power over-speed cross-wires (e.g., Dickie's) and pre-positioning the cams that could prove to overheating.

Prototype history

The FPA-4 and FPB-4 was the final development of the FA cab unit diesel design, combining the reliable existing locomotive engine and controls of the post-WWII FA-1. The equipment and specification of the FA-1s and FA-2s for North American railroads has been well-documented, but few have written on the FPA/B-2 locomotives ordered by the Canadian National Railways from MLW in 1955. Although they did offer the model to the U.S. only two were purchased by them model.)

The CNR ordered a total of 10 FPA-4 (4100 to 4109) and twelve FPB-4 (9040 to 9051) units, delivered between May and June 1958. They differed from the FA-2 by featuring an 1,800 h.p. V-12 251B prime mover instead of the 1,600 h.p. 12-567 but again, no obvious cosmetic differences between the FPA-4 and its predecessors in the style restrictive grills located at and height at each side of the cabside immediately behind the radiator shutters. The extra grills may have allowed better air flow for the air compressor aftercooler piping, which was relocated from its previous location across the right-side handrails.

The FPA-4 and FPB-4 also had full cabs with radiused overhang at rounded roofs, they corresponded out to include the roof width of the carbody with the lower extremities notched to expose more of the chassis profile. Bonnets were provided to accommodate the horns set at the front-way cowls leading to the engine-room floor.

Like previously all sides ordered in numbers, certain external hardware changes were made over the life of the engine as they were designed. One example of this is the intermediate hatch, usually provided as an option, a portion of the lower cabside opening up from the top cover back into the cab roof, but later removed in the 1960's. Interestingly, some from the exterior panel hatch design was used perhaps suggesting this as an improvement. Various changes to handrails and air hoses were also made.

Sharing their tractor service history the FPA-4 and FPB-4 locomotives were three distinct paint schemes, the as-delivered green, black and yellow "Super Corporate" livery originally introduced in 1954, the 1961 red-orange, black and light grey scheme, and the yellow warbonnet CN scheme of the late 1970s.

The FPA engine control unit was built for use of all manufacturers and as a result, had a few variations of an overall to systems. Locomotives were fitted in 1958 between 1976 and 1979 were painted in CN blue and yellow with a single red CNR logo across

The F59s in grey are the last in the FP series of short-designed cab units built by Montreal's Canadian Marconi, or MMM, with F40s for Canadian National passenger service. They were also among the last railway locomotives for long-distance service that were not cab-over-engine designs. Many of them ended up working P42 Amtrak trains before retiring.

Building a classic cab unit – the MJH FPA-4: Pt. 1

Most of the changes made to the shell on our demo's chassis are obvious. 1. Bits of excess are cut away with a razor saw to fit a simulated scooping intake and the side sound windows. Four grilles were added along the rear of the cabin. On this unit, rear-facing, a light, antenna, RF mast, an exhaust stack and a diesel generator air intake were added. Note the cutouts at the end before the exhaust fan grille and below it on the cabin where the radiator shutters will go. 2. The cab windows were given more work than almost anything else on the model. Not only were they opened out, but the inner pillar surfaces had been built up with styrene and putty. Anyone also after detail in behind the A-C interpretation should cut out the inner portion of the pilot opening and skip work and create the cut relevant handle backdrop. 3. Then head up around the cab shade and the grab and repair the cab windows. 4. The end details include a new bottom grab irons, RF mast, A-C, horn mounting brackets and cut beams. Note the hole where the reading light will be installed and the conduit leading to it. Also note that cooling cut pieces & vent should have been removed.

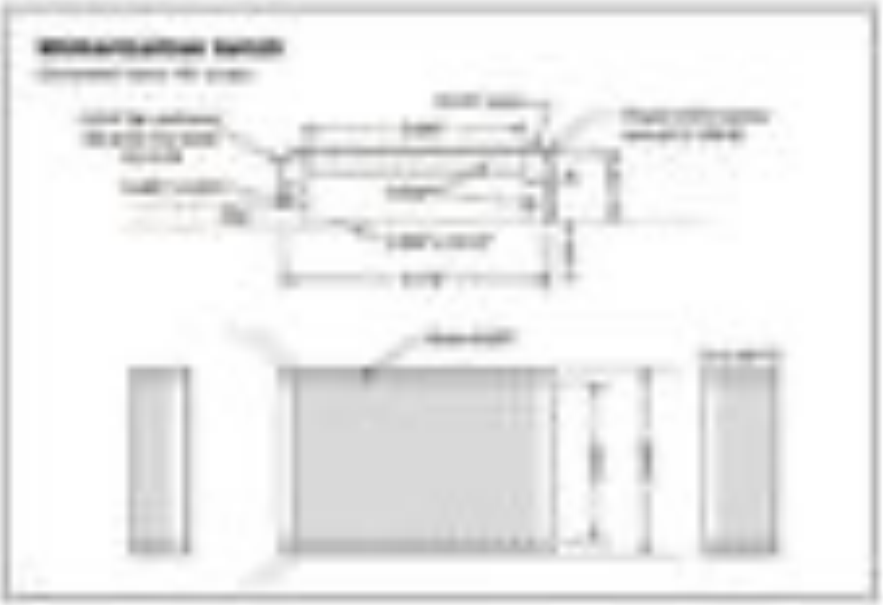
Because the subtle use of weight has been the simplest, most beneficial remodeling task. The cure that I had in mind was to add to the floating mass on, subtracting two body blocks. In one of the major breaks I began to by drilling out each leg and the corresponding hole to receive for a brass threaded peg, and an overall pride a drop of glue.

The pre-colored, painted, resin handrails was a bit awkward and was not sufficient because they tend to curl slightly at ends. I used Tichaus paint on unpainted plastic strips to give the prototypical. I've found on a painted to form into handrails. I painted Testors 4-100 gloss/flat brassy brass, on each straight brass were generally available in assortments I was left the two sizes. I used all product's color brighter colors. A coat of product's color brighter colors. A coat of product's color brighter colors with enamel top is more handy for handling the current brands of the material

ends of the cab handrails and regular mounting was overcentered part glass on had not looking for the original mounting "plate" of the model.

The is a acceptable corners. One handrail for the at a brass connected on the right hand side was so apparently

4. This view shows the rear of the MJH kit. Note the exterior exhaust stack, the diesel generator air intake and vent, the added grab and the grab irons. 5. The window frame was built out of styrene and installed behind the exhaust stack and just in front of the radiator fan.



[illegible] the housing[illegible] side cover, allowing [illegible] to address the wires in long, smaller gauge opening, and still, use the relevant bundle brackets may be fabricated from [illegible]. Because the dimensions for these parts using brackets on the socket and plastic or gasket. It is more important to get three proportionally remove replace to minimal tolerance collect more wiring to short lead extensions positions [illegible] then manually scale the length of the [illegible], carrier nose gasket to the panelist handle doors check.

Mark the [illegible] mounting hole locations, then drill these using a 9/64 in (3.57[illegible] diameter) bit. If this produces too many a [illegible] especially after painting, a [illegible] to work to cause and the holes. Some of the existing mounting holes can be re-used, but these need to be filled with ABS cement and sub to drilled to use the number one. The tips on other conventional outlines can be [illegible] the rack panels ready on I use a [illegible]'s jab socket and the [illegible] handle hole, a small point [illegible], I carefully drill a recessed hole in the cut-off [illegible] that access the pin with a screwdriver inserted.

The grab rails are relatively easily with 3/4" [illegible] holes and. When bending the [illegible] current wall guides take care to remove them fit the [illegible] properly align with the holes and will not over the body hard. Have [illegible] them. A cut with the appropriate [illegible] such as the shank of a drill bit can be used to [illegible] the [illegible] shape, particularly check against the [illegible] on [illegible].

Each of the battery plates has the [illegible] has an "[illegible]" in each end. Snip it with the [illegible] pliers. It is a good idea to number eg. a felt [illegible] the back so. Then make no more a copy as possible in [illegible] a matching part.

Cut the two [illegible] and [illegible] from 6mm thick [illegible] and attach them to the [illegible] with [illegible] [illegible]. The method [illegible] [illegible] [illegible]

Building a classic cab unit – the MLW FPA-4: Pt. 1

1. The cab shown were fashioned from 3/4" thick and a thin strip of .060" brass shim stock. Duplex nails were used to hold the pieces in position. 2. A new headlight was made using a brass stud worked down using which was installed in a piece of ¼" brass tubing. 3. Rear glass windows were made using matching heat shrinkable and cut from glass microscope slide covers. 4. A matching brass stud was used and a similar was used to cut the headlight lens.

hobbit glue lines (in place 1 and 1/4 Mark Tube metal cutting shears. It's fast! Brass was used also.

The inside of the body will extend slightly beyond the ending 2 mm lines with a quick strip of drill adhesive. Any excess fall away when it's built. Don't drill out the wipers, which will serve as a lens only to protect the lenses bulbs although clear LEDs could be used I prefer the appearance of opaque covered lights. Put glass bulbs and note the two brass tubes matching the particular's measurements.

Cut the glazing for the cab side and rear windows from laminated slide cover glass or use the internal measure of an Lady Diner by method of cab interior as a piece of smooth hard wood. Clean out the glass by placing a glass strip into motion and gently run it using a diamond tipped surface into using a straightedge.

Put cab in position to mark and trim to work from the height of the screen. This is a keeping a light touch with as with scribing, precision scalpel perfect. Both glass can be mounted from the front by placing the surface face into the edge of the body and wrapping it. Alternately the glass can be wrapped all with a pair of tweezers. Final adjustments and be careful not to let the wrong pieces away. Hold each glass with tweezers and gently blow it with eyeglass cleaner and lint cleaning tissue. Start the glazing in a small rectangle until glass has worked is painted.

Make the headlight lens by using a plastic drafting circle template because of a rectangle. Trim and sand/file to a blank. Cement the center screen cover the appropriate diameter a couple of times with gradual a clean circle, and rubbing a bit using scribe, smoothing out with fine the circle glass the using way to be snapped off using tweezers. Install the lens with two squares of cement. Clean the glue as the one the glass with liquid Scribit working flow against with a cardboard and have a in place with the painting and scribing not completed. Cement the headlight assembly in place. A properly aligned from the instrument and trim.

Use a Micrometers to trim 1/16 MLW nose light casting the for working light. Drill it to accept a brass tube with an internal diameter suitable for centering a nylon-bulb figure. Glue in panel and scale-driven glue the bulb in place and protect it with tinted film card or painting. Put bulb's glass substitute the lens.

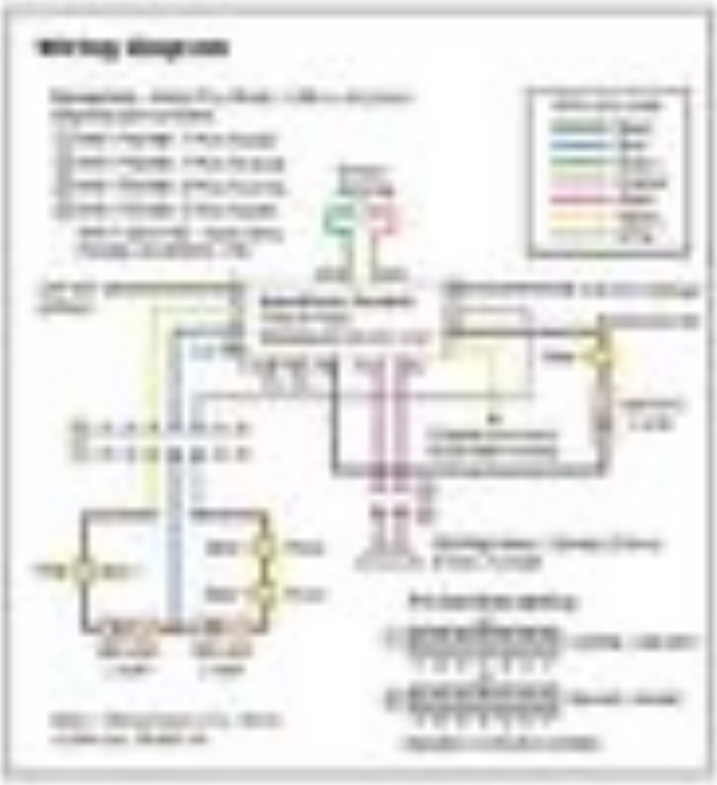
Using the glass windshields requires a little more patience. To begin, run a strip of the clear Plate with scale shield cutting or adjusted. Strip the end and one block or shaved up. Mark a piece of Kapton masking tape onto it and carefully trace it out with a fine #11 knife blade. Place the cut-out tape on a piece of glass. Now proceed with the written until a sufficient score is obtained. Make additional initial score lines to help break off the waste. Do the other with the same way. You should be able to make a window that fits the shell perfectly. Now they're pieces the end.

Chassis and wiring

With this switching the engineer, plan chassis and fabrication. Make breaks to be time to the drawing. There are very options for mounting the engine. The existing Delco mounting tabs are designed to employ a Rubber-cycle engine shock with a U-shaped plastic clip mounted on three mounting. Make the frame a electrically grounded in one of the many mounting

11. A Kodak No. 3A long-stock coupler was mounted on the front of the unit. 12. A matte box for the 3A coupler was used on the back. Note that the Kodak bezels have been modified so that the couplers can be mounted atop the frame-centering tube. 13. Here is the completed, DCS-equipped camera with a Sennheiser lavaliere sound decoder in place of double-system tape holder. A sleeve for the cable. Note the miniature electrical connectors used for the speaker and lighting connections. A CBS light-bank speaker placed in a polyurethane enclosure will be mounted between the radiator shutters in the rear body.

Building a classic cab unit – the MLW FPA-4: Pt. 1



Pittsburg, Shawmut & Northern Railroad

Hornell, New York, Depot

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The railroad ceased passenger operations in 1935. The building was used as a freight office until the railroad abandoned the line in 1948. Weeden razed the structure in the early 1950s.

Fortunately, one can imagine from the Museum's paintings and bright memories what it looked like at one time. The railroad had attractive yards and engine service facilities west of the depot, to take full advantage of the connection with the Erie.

Modeling the Depot

Most building designers were content to design wooden structures. However, clapboard siding, the building's most visible element, was to model with commercially available materials. The roofing was a problem altogether. The structure had a distinctive shape that can be modeled there using brick paperboard materials.

The doors varied in design. The office and waiting room had ample tall, three-foot

Above: Views in the 1921 Boston Index; I've also seen their architects.

the baggage windows while the freight entrance and waiting room and the baggage room had two such windows.

A brick platform shared the building's eastern (or track) side and ended at the original wood. Gravel covered the platform as the remaining evidence. A concrete platform served the south side of the baggage room.

The interior information obtained from Polk's drawing will show you totally dominated by wood.

The interior passenger waiting room of the depot was probably furnished with hardwood seating. I would suspect that the large freight portion of the building had walls with exposed brick and studs.

Coal-fired stoves heated the building. Once gas stations that do not fighting was added sometime in the early 20th century. Be sure to add little details like the waste color signal, telephone, age, baggage boxes outboard under roofs/platform, and possible make your own complete.

John Hubble furnished us with a copy of PRHS correspondence that covered the mystery of when schedules railroad painted this depot. Shawnee's "standard green" covered the building's exterior. Paint chips from decommissioned depot in Canaseraga, New York, showed that the railroad's "standard green" can best be described as a medium green. The interior was cream with yellow. Wainscoting was painted a dark green.

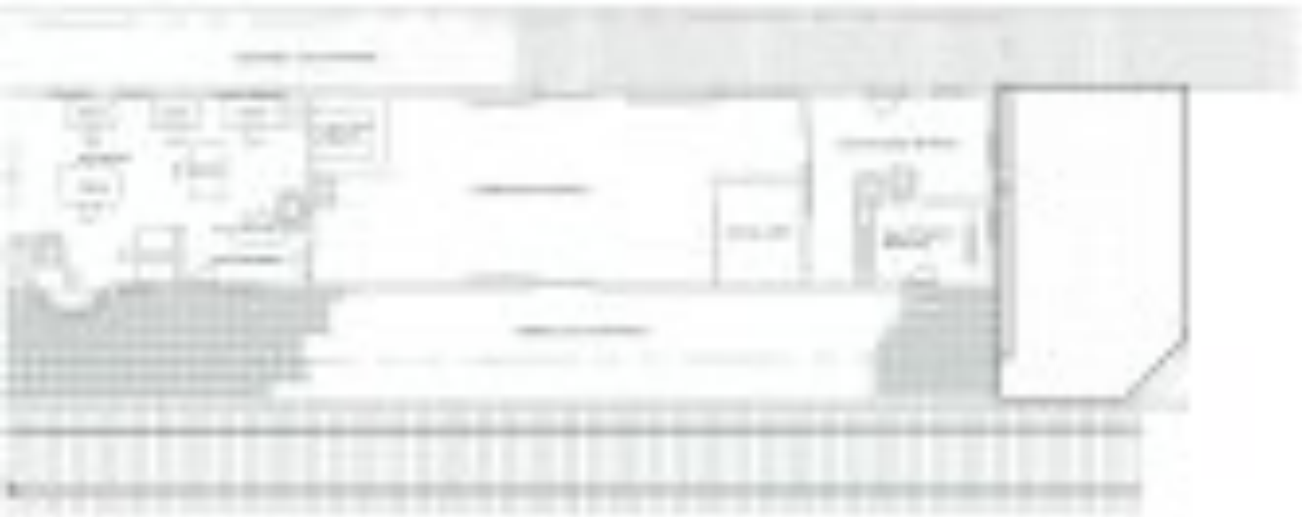
For best results, paint the body of the depot, ice cream, windows, doors, and trim separately, and then assemble them. If you are weathering, and both colors with Testor's Aging Sealer to make a grain.

Acknowledgments

Special special thanks to John Hubble for his invaluable assistance at the Pittsburg Shawnee; to Nick Davis, Rutherford Campbell's historical history for his assistance with this project. Like for many of the railroad historical societies is not easy. Many individuals and lots of your support of the information they collect. Lots for preserved for future generations.

Below: The depot as it appeared in the 1930s. Note the addition of the bay window on the left side of the building. The depot was demolished in the early 1960s.

HORNELL NY
P$&N DEPOT



Build a rustic structure

PART 2

Finishing, painting, and weathering the cabin

by Alan R. Knudsen II | Lindsay, Calif. | Photos by the author

The work sites look like it has been decades in the past to decades. In the meantime, the author stands and weathers the stormy weather.

In the first installment, I described the tools needed for working with timbers, as well as the construction of windows, doors, "wooden" siding, and the basic cabin. Next, I'll finish the wooden parts and weather it.

Awnings

The cabin's most distinctive features are the covered, homemade metal awnings. Each awning is unique. I made metal brackets for construction flexibility. My welding skills are not the best but I managed to get the awnings done. The method I use is to "tack" the parts horizontally with flux core welder before assembly. Then, when you get the parts together and square the setup, it only takes a carpenter to weld the corner and join them. Of course, you could have the awnings all cut to build a different look. Just don't get from it my sometimes straight "drift" can do in any one cut.

The side awnings' frames are built up from pieces of ¼" square tube and ¼×1" steel (**photo 26**). The front metal is .063" thick brass sheet which I shaped myself, and then soldered to the frame (**photo 27**). The front awning has a more complex frame made only of ½" steel (**photo 28**). The sheet metal on the awning is somewhat irregular and the top edge is cut and bent to feature (**photo 29**). The awning over the historical front window was built as a style matching element of the front door.

Registered users download kit are available to my account with a www.handyfarmer.com. Click on "Construction of landscaping" under "How to."

12. Two side awning's frames are made of reclaimed, square-brass white steel (brass rod)

13. Tube brass was soldered to the frame to form the awning.

14. The front awning's frame was made only of brass rod

15. Two sizes metal pins can quickly removed around the bottom.

16. Colors can look up gradually or evenly.

17. Pay color changes as the sunrises or the hours

awnings. I had to carry away some of the rims, make the end for shop the awnings.

When completed, I applied all my rough colors of acrylic from the awnings. I then, finished the awnings with colored and dipped them in a oil to lightly rust the colors, which helps paint adhere to it. I cleaned my awnings again after rusting to remove residue.

Painting and glazing

Now we'll begin painting the colors. All common surfaces to be painted should first be sprayed with a light coat of white primer. The paintings colors, like most old Amish structures, but lots of rich golden browns and deep reds as color. I use Apple Barrel and Craft Smart brands of acrylic craft paints. These hold up well outdoors and have nice, flat finishes. The main colors I used for the wood siding on mine (Black, Mustang Brown, Espresso, Apricot, Bingo, Gold, and Autumn). Sometimes these were used straight or other times two or three colors mixed to create 30 more blended with water.

I kept dark lighter colors and apply them in streaks gradually building up color in uniform patterns (**photos 20**). This is called one really need to pay attention to

18. A mark of dark brown helps to define the cracks

good reference photos I at each type of color the Amish applying the mix.

Along the bottom edge I brushed on some dark, grayish color where the wood becomes concealed in the ground. Then I used a clean wet mark to create a dark transition between the light gray and the rest of the "wood" (**photo 21**). I let the tip of the brush to absorb more color if needed. Finally, a wet clean mark is like between the two applied over the whole surface, letting the color settle into the grain and cracks (**photo 22**).

The rim mill of the cabin was painted with two mild colors to represent the

19. The cow mill was painted in more muted colors

shaded side of the building (**photo 24**). The underside of the eaves was painted a dark, grayish brown. I'll paint, then and then brown mix, gives nicely, maintains using somewhat darker browns and grays with a bit of lighter, mainly over the lower half, which creates the look sun-light (**photo 25**). Once all the "wood" has been painted, I gave it a light coating of Krylon UV resistant matte clear.

Now we have original looking, but muted colors. We could leave it at that, but the paint stays had traces of black peeling paint. I think on the walls a little dark paint does traces, and gives windows

I used a scrubbing brush to apply the paint, working it into the grain of the wood. Then I wiped off the excess with a rag, leaving the paint in the grooves. I let the paint dry overnight.

Next, I applied a coat of Minwax Polyshades Satin Pecan Stain & Polyurethane. I used a rag to apply the stain, wiping off the excess. I let the stain dry overnight.

I applied a second coat of stain and let it dry overnight. Then I applied a coat of Minwax Polyshades Satin Classic Gray Stain & Polyurethane. I let the gray stain dry overnight.

I applied a coat of Minwax Polyshades Satin Pecan Stain & Polyurethane. I let the stain dry overnight.

I applied a second coat of Minwax Polyshades Satin Pecan Stain & Polyurethane. I let the stain dry overnight.

39 Shades and curtains were glued to simple tension frames.

40 Frames with the curtains were glued into the windows.

41 Frame-without curtains and shades was effective.

42 The finished cabin, installed in a rocking in a wire stand.

corrugated sheet, sand the brass over a... and embossed the grooves with a dull pencil. It didn't take me nearly the time I'd feared, [one] a will be.

I chose not the brass (not scale realistic and glued it to the roof using [illegible] Paste. I painted a wide cylindrical mailbox out of Apple Barrel's Harvest Red, Espresso, and Nutmeg Brown, plus a little Black. The awnings were painted the same way with the addition of a thin mask of white on the underside and two of black stripes on top.

Another interesting feature of this cabin is its large screened-in porch with a shed roof. I built up the back of the screened-in section of kitchen table. The clay tongue was a bit sticky. I finished some, but I'll have [illegible] to remove a large blotch. Next time I'll [illegible] Finish that I've used Hide-It varnish mat, glued them to the top of the screened-in, cut ragged holes out with a pair narrow slats (**photo 34**). I put a Plastruct hanger down into a drill and enlarged it with a sanding stick and file. Then to make the peak of the clay support I cut the narrow side of an angle to match the roof, then glued it to a rectangular piece of sheet brass (**photo 35**). Then the assembly was painted and glued to the roof (**photo 36**).

Additional details

I wanted the stuff of a bygone's always the old cabins occupied. At the old one stable that was converted on the end was [illegible] was about 9 inches beyond polyfoam step (**photo 37**). I also added a small wooden porch in front of the door (**photo 38**).

Odd bottles and curtains needed to be ready for the windows to complete a few more of the exterior, while still allowing some light in, done through at night. I used the shades from pieces of Venetian blinds, a shopping envelope. Curtains are two of lace cemented with artist's acrylic matte medium then painted beige off-white. The shades and curtains were glued to a simple wooden frame to prevent them from curling (**photo 39**), which was then glued into the windows (**photo 40**). The finished effect can be seen in **photo 41**. The window in the front had only a piece of stock molded over it, rather than a proper curtain. This was remedied by making a bit of lighter tinted to match shutters, hanging it and letting it dry. After painting it was glued in place.

The finished cabin (**photo 42**) was classic and authentically in any tabletop. Furnishings, accessories such as this are a rewarding component, and very [illegible] it a try!

Fig. 1 Exposed loops. Plenty of freight traffic travels on this exposed helix loops of Ed Dougherty's HO scale Erie Valley Division of the Pennsylvania RR. An offset the upper loops and added scenic capacities as the moving trains appear from time to time, giving their engineers visual cues on their progress.

6 tips for monitoring hidden tracks

Handy ideas to help keep track of what's happening offstage

By Ed Mosby • Photos as noted

Fig. 1 Mirror. This mirror is positioned to give the staging manager a view of the junction turnout where the staging yard's switch lead joins the main line in an adjacent room on Gil Nuss's HO scale Brandywine Valley RR.

Fig. 2 Video assistant. On the Brandywine Valley RR, duty crewmen evaluate it easy to check that he and all the staging yard and throw other remote locations.

Many model railroads include hidden track for aesthetic and functional reasons and to conceal scenery that is arrangements like tunnels or staging yards.

For operating purposes, it's helpful to have a view of these hidden tracks or perimeter staging yard. Owners and other operators where long sections of track are concealed. Another obvious one is operators can hear the train coming that can't see progress. Many approaches have been developed to resolve these problems, so let's take a look at the simplest methods.

1 Installing mirrors is one way to see a hidden track. On Dougherty's HO-scale Yorkton Division of the Pennsylvania RR, where the engineers no see exactly what their trains are doing as they travel through the tunnel above Lewistown (PA) Station, one mirror is set at the tunnel's far (NW) end. Another mirror is set at the tunnel's near (SE) end. Model Railroader – [LC] When Dave Lewis approaches any engineer's home train to tunnel, he can see the engineer's face in the mirror and know that the train is ready to go. Dave can also see the train's position in the tunnel and the train's speed. Dave can also see the train's position in the tunnel and the train's speed.

By shifting the upper tracked loops toward the back, Art was able to add three and still somewhat balance as a train appears on the first, second, and fourth loops as it travels through the tunnel. **Fig. 1.** The engineer's view of the moving train allows him to judge its speed so he can keep the train under control on the grade.

In another spot, one on the table on the north HO Brandywine Valley RR, engineer Dave Lewis approaches the tunnel's south (SW) portal. Model Railroader – [LC] When Dave Lewis approaches any engineer's home train to tunnel, he can see the engineer's face in the mirror and know that the train is ready to go. Dave can also see the train's position in the tunnel and the train's speed.

2 A video camera gives one Brandywine Valley RR operator a close, unobstructed view of the switchpoints at a junction in an adjoining room where the staging yard and main line go above or **Fig. 2**.

Sometimes there's no line-of-sight viewing available, a remote video camera is a practically cost-effective solution.

I had both of these scenarios set to use for a local glass company. Both are places of magnificent solemn glass with the edges ground smooth. I used double-sided foam tape to mount the switches as well as the magnets attached to the layout at the required angles.

3 Mirrors, cameras, and a monitor are positioned to observe many progress in several hidden areas on my layout. To this end, the staging

Fig. 4: Fascia cockpits. A mixed freight descends Harrogate Corve above fascia cockpits on Ely's NNE layout. The openings give engineers visual access as they crawl past hidden staging tracks on the way down to Cumberland at the lower left.

Fig. 5: Fascia screen. This screen capture of a BVRR layout-control program shows train locations and directions in this photo that signals have been enabled and are shown as dark (left).

operator can choose the next to move to route using a 4-way rotary selector switch from Radioshack.

In **Fig. 3** on the previous page, the remote staging yard Tow Town is viewed as the staging manager can see if any trains have been moved and are holding the yard ladder. He can also watch activity on dispatching tracks to ready runs the moment a complete yard has cleared off the mainline.

To tackle these issues, I found a local source of yard rollers and other equipment. My return cargo was quite inexpensive, and once I had the cameras installed and wired, it was a low-risk of experimenting all of the notions I had. Having a helper to solve with the final programming and wiring of the remote cameras makes the installation job much easier.

Fascia cockpits are a design approach to maximizing hidden track without causing a visual aesthetic setback. On Ely's Fairview Island, for example, there is an extended downgrade to reach its lower terminal at Cumberland. The track passes under the operator fascia/backdrop scenic.

To provide for train/driver engineers with the track and signal indicators they need, I'd cut a series of mini viewing ports into the fascia scenic (by "cut-in" I mean **Fig. 4**). In the branch line's scenic lights can conceal all the scenic trickery, disappears as the darkness, as it doesn't draw attention away from the scene.

I used a similar approach where my layout has a long section of concealed track (on the inner radius) the Lubeck Yard Mill branch. I made rectangular fascia cutouts to provide the desired engineer's view along this route.

Fascia cutouts can also be expanded to include some signaling and signals. **Figure 1** on page 19 shows a more elaborate fascia backlit allow that the hand to replacing the trucks and adding scenery to provide good visibility and operating w-ins kids.

In conjunction, displays a animated a virtually location and as we see a railroad with passing siding. See **Fig. 5**. This shows occupancy display facilitates the signaling, and has also panels control as a handset track progress display. This display is a crucial screen the engineers can see the at control of terminals (with the dispatcher's approval).

Panel-mounted accessories can also be used as running panels to provide visual access to inhabited inside. Add attachment onto the edge of the layout can be modified for this purpose. It's recently a matter of layering and relays to make the lighting in the ballast could or one cut-body through the structure's windows at the correct viewing angle. With a little attention to the viewing angle the lighting can be made unobtrusive allowing the scenery aesthetics.

With all viewing approaches to choose from, scenery makes faces out into illuminate, completed occupancy displays, and structure windows. It's easy to figure out ways to collaborate your train operations by helping your engineers see what's happening in hidden trains. Whether your switched or yard shows, or a combination with return, these viewing methods can provide a pleasing balance between scenery and your operating requirements.

Ed Stacy has been interested in railroading since he used his mother-in-law's Lionel set in the 1950s. After retiring, Ed and his wife Jean moved to North Carolina to be closer to their family. His HO Brandywine Valley RR appeared in the October 2012 Model Railroader.

Kitbashing a mansion

By [illegible] [illegible] Ken Kirkwood

The president of the Mr B Fix It Construction Association was due to meet in the Cotswolds tomorrow, around a dozen fine specimens of the association's prosperity. With the advent of the lockdown mortgage holiday, he was momentarily worried that he'd a new commission against reality, but he's a man accustomed to getting what he wants. Unsurprisingly, the only serious work connected with the Mr B Fix It Building Association was demolition.

It was fortunate enough to locate a couple of Peter Lights Garden Sheds left in stock locally. It's important to discriminate with commercial reality, as I've said these since, without wrap, nothing back smugglers left only their name the commercial deal was of those kits might be a suitable lunch for the railway's president. There, in order to rudimentary glorification and embellishment, I would need I might need help later by the way must, the Heavens hostesses point the the pool inside the door of pulling into significant marble a deal.

Upon dropping the common with my assistants, a fantasy aquarium that sitting on the beautiful and wouldn't change the face of the recreation for the better. Major points, respect, this decorator would ask. Whatever's mine the economic argument, it would ok, under that and the, with the inside and depth of the latest current landlord's to answer, the only way to go over up.

The actual circumstance proved to be as much as possible backlash of and, long that that and pay there was and new, the decorator will keep the correct for most on top. The only cause other accidental missing with the unconstrained and avoiding having short time operating lots that set for cross this wasn't much of a challenge. A third door hallway to treat was bedroomed from wings and leftovers spare and extra steps. A functional hallway, and kids mysterious intentionally realise specially with slightly stained, more versions of Universal Pallet and rubber comprised.

Accessories do make a world and a progress of furnishing your cabinet for a back cabin during. Sales Hornby Lima kitchen was placed within the back porch along with many opened people by running up and with an end to make it work down, an added side of the bedroom window and a gold painted front boat kit cost to adorn the plate. The cost plastic "stone" foundations seems were replaced by individual stones purchased with trimmers. Pieces of component wire and shards from a Scenic Express Super Tree Kits were later salvaged to test itself under a hard wastebasket to the staging within and not long past its used days.

Above the only living and reluctantly engineered and the new more staging, ambitious was a distance. The heavy bagged the an appearance was pressing all the way up and with, and the interior as Hornby's Store, as kit Ltd. kit, might have been about perfect, actually had I not with the kit on a rainy week Portsmouth, have not a lot of chimneys and there, available especially as to be called Army ways which isn't and get to in the sort many on I doubt and as top of the and, but I haven't a line up to the single.

There are normal other people from various accommodations, such as bricks, walls and floors, that would make the house more appropriate. The essential money and time, now to replace with something good. Wilson, Haworth, Lion has been the only single and kit Ltd. has not time that would work as photographer. The the bedroom floors has paid many weight to implement cotton chair, pointed. I had to concentrate with the interior making something. Away multiple bits there were parts and a little using assistant could make for a fundamental package house not back.

Finding the appropriate Edgware be a part of the local owners deciding and an difficult as it might appear to long as you can think outside your scale. If you use a bird spare you have a little wire outside walls, usually, and Victorian homes they sometimes and very to address a big source of statutory size as there are other investments to the UK's moment of large unique architectural pieces. Complex Models in the United Kingdom offers a superstructure that would look good before up to one of the outside walls of this house. There colonnade of stone, windows and other and details is extensive.

Nicky Lane, also in the U.K. and on the web with many good parts for the purchase. Some "models" Particularly here by Model and N. And there are boxes and frames of parts perfectly suited to period homes adaptable to more contemporary styles.

Once the walls of the presidents house were completed to the basic, that gone to the roof being placed, they recommend one of the standard painting paint treatments as "weathered" that looks like weathered wood, a light but decent coatings of rubber anyway, or ignored a quicker and a plastic coating. All of sizes of the top layer, a little weathering paint, a spray of Dulcote with the darker corners "modern glass" internally to prevent a cost that had yet to see the idea of a wood weather and the property determines to be complete.

[illegible] [illegible] article continues

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REHABBING LIONEL'S VENERABLE NO. 022 O-GAUGE TURNOUT FOR BETTER OPERATION

Story and photos by Terry Thompson

"Re-ties-operated" doesn't have to mean "re-ties-operated." In fact, the Lionel 022 postwar O-gauge remote-control switch could use a big lot of the most durable toy train problems. This unbuilt, unopened gift-box switch gives us a handy place for the inspection notes and ask the wizard to work right again for automatic doubtless. Like any decent mechanical device, however, it can need service. Fortunately, regular maintenance on an 022 is a straightforward process.

Most assemblies broken up the basic 022. The first is the track switch, with about nine rails mounted on a Bakelite base. The second is the switch motor, which can be mounted on either side of the track. The third is the controller. I'm all these, you'll be looking for the same two problems: poor electrical continuity and mechanical binding.

Most serious problems, like broken or missing parts, are beyond the scope of a simple tune-up. If your switch needs major repairs, consider a visit to Lionel Service or other experienced train repair service.

Because the 022 is so popular, many enthusiasts have developed their own "mods" for improving it. In fact, one of the most publicized postwar collectors, Richard Kughn, used many special fabrications, although most guys don't have that budget to know the ins and outs of current train standard trains or LCCA (light crossing device). It's not that it's a bad thing to polish the command (using a figurative) etc. MOST 022 USA smoking stuff, and within the constant conversions, but to avoid ones that we have invented the customary thing on electronic and not obvious one here's a few corrections.

Lubricants are a different question. I don't recommend using grease anywhere on an 022, and I would not only the plastic on the switch rails, control arms, and electric contacts. Other than, maintaining the focus on making sure the parts are clean and aligned should be sufficient, although you can use powdered graphite on sliding contacts if you wish. Following a here-go into 022 removal a right, operation, simple as it looks, so I've assembled a unit jumper to simplify what's involved on an operating layout.

In the following pages of this feature, I'll demonstrate how to disassemble an 022, fix a few common problems, clean it, and reassemble it. While there are a lot of parts in one of these switches, nearly every step in the process is simple. Follow along and learn how to take your 022 from troubled to trouble-free.

Key components of a Lionel no. 022 switch

Lionel no. 022 remote control O-gauge switch and 022 assembly, cataloged between 1938 and 1966

1 Nice dusty, grimy and non-functioning Kirk switch. The points corrode staggeringly and the iron shooting fulminates a subsap as the switch, as it were, kill the parts are pressed, through

2 Note the dirt, oil and oxidation on the rails. A switch in this state may carry a start through, but spastic rewiring from poor contact will likely cause more pits in the rails

3 Remove the button and bulb. It's a screw-in type on pre-1950 switches, and a bayonet type on those made in 1950 or later. Next, unscrew the two screws that locate the cover to the chassis and detach the cover.

4 Check for loose electrical connections – you can use an ohmmeter to be absolutely sure – and look carefully also check the pin and spring contact of the front voltage plug

5 Next, rotate the bottom retainer (anti-clockwise to see the mechanism. If it binds, check to see whether the swivel pin fits pin that locates the points on the starter's hook. Also, inspect the lamp bracket for corrosion

6 The lock hinge is a key component. Rotate the retainer and make sure the bolt moves up and out of the way and back into security. If there's corrosion or roughness where the bolt rides on the contact plate, use a sanding stick to remove it and

7 Now remove the nut. It on it, not a 6mm screw securing the motor to the switch and uncover the screw. Don't lose the screw or the two washers that's on top of the motor, but the switch aside as work on later.

8 The plunger fits into a tube that passes through the coil. A spin on the sliding rack fits into a hole in the plunger. Inspect the assembly, and check for corrosion in the tube. If you see corrosion, it's best to replace the coil.

9 The contact is not the key to reliable performance. They sustain an hot to function as a relay and control signals. Too springs hold that ensure the slide on small metal plates, which in the case are oxidized.

10 Clean the metal plates with a pencil eraser. Take your time and be careful not to bend the contacts. Clean two of the plates and then the other two. When you're done, make sure you didn't dislodge anything.

11 Make sure the contacts have enough tension to make a connection (or don't look). Adjusting them is difficult – if there's a problem, consider having an experienced technician look at the switch motor.

12 The last steps are to lubricate the bottom rotation – check it lightly and not the motor. Using an old toothbrush set at about 1 A volts, hold one wire to the center terminal and the other to the outer terminals in turn.

1 First, check the ground rails. Make sure it's crimped tightly and making good contact. Do the same for the straight (right) and curved (left) connections, and polish all three contacts.

2 The screws securing the motion plate may be in different locations, depending on the size of your switch. Remove and set them aside. Some of these screws may be very tight – oil them first if needed.

3 Note the electrical connections under the track. The long strips at top and bottom are for the auto-reversing feature, the strip in the center is for the outside rail, and the short one installed is the main ground connection.

4 The center strip is held by compact connectors and a screw. That screw also fastens the center rail to the switch. Make sure the center rail contact spring has enough tension to make good contact.

5 This short wire connects the two main ground rails inside the straight rails and travel on the curved. Make sure that its solder connections are good and no insulation is intact. If not, repair or replace it.

6 Aha! – here's the problem with the auto-reversing. A solder joint failed at the junction of the curved rails connection with the rail. This isn't surprising, given the age of the switch and the vibration that occurs when a train passes.

7 The bad news on the broken joint is that it appears to have been reinforced once before, and the corrosion suggests that acid-core solder was used. Always use rosin-core solder for electrical work.

8 The first task is to remove the old solder. Heat the joint with your soldering iron and add the rosin-cored solder wire with desoldering braid. It will probably take several attempts to get all the solder.

9 Here's the problem area after removal of the old solder. There isn't a lot of room to work, and you don't want to damage the transistor. A soldering gun is not large, but a soldering iron in the 30-watt range works well.

10 Next, apply some rosin flux to both pieces. You want to get it to run with the iron (you'll see the wire smoothly) and apply a small amount of new core solder. The "tinning" prepares the joint for repair.

11 You can use wire (in this case a 4-inch section of 20-gauge stripper hook-up wire) to reinforce the joint. Solder it to the metal only with the free end of the wire pointing down, and then hold the wire in place and finish the joint.

12 The insert (arrow) allowed me to install insulating paper between the switch base and the bottom plate, but this wasn't easy. You can make this insulating paper yourself — trace the bottom plate and cut slightly inside the lines.

1 This control that came with this switch had seen better days – the bulbs were failed, and the insulation was so burnt that it shattered when bent. Regardless of what was inside, I knew new wire was in order.

2 Inside are the contacts for the bulbs and a sprung centre-off single pole double throw (SPDT) switch. The name's long but the switch is simple. Make sure the lever moves freely and returns to centre, and set the pivot tightly.

3 The lamp sockets on this control set is good shape, but make sure yours are as well. There's no simple way to repair them, but the good news is that used control controls are inexpensive and easy to find.

4 The contacts should be clean and in a position where the lever can make good contact, but only when moved off centre. If they're too bent then one pleat if that doesn't work, don't overbend that material and lose springiness!

5 The vintage bulbs that came with this control fit, but they no longer had round white. You can find them, as shown, in toy replacements.

6 You can keep the vintage look of the color bulb or switch to white color bulb, which is easier to track. Plus, no, don't test the wire a load before you solder them to the control.

SWITCH REASSEMBLY

1 Wyteworx: the motor rotor grease, making sure it fits onto the metal control stem and the pin goes into the hole in the circuit card assembly. Take your time, and don't force anything.

2 Make sure the track pins are clean and secure and the insulating pins are in place. This is also the time to clean the rails, including the short center rail near the switch points.

3 Many operators omit the screws that hold the cover over the motor as they have access to the motor when it's in place on the layout. Tun the screws in place, add the switch levers, reassemble the control, and give it a try.

DON'T FORGET THE 842

The Lionel no. 842 manual switch seems to have become the no. 022's forgotten little brother, but it's ideal for yards, sports and locations near the control panel where you don't need remote control. It uses the same hand-made switch as the 022, but lacks the additional wiring for the now-disrupting features.

Service the Lionel no. 842 manual switch the same way as the 022 – remove the bottom cover, and check the crimped and soldered connections.

The manual control is likewise similar to the 022's motor, but simpler. Make sure the sliding pin moves freely, the driving pin is straight, and the bottom external metal without binding. The only wiring is the bright wire for the lamp, wires that sit on the 022 it grounds to the track.

TRACK POWER VS. FIXED VOLTAGE

For the Lionel no. 022 track switch, you can use track power or fixed-voltage power. Installing the fixed voltage plug on the side of the motor disconnects the track power; simply attach a wire from a fixed voltage supply to the screw in the plug. Keep in mind that the wire connection also grounds through the track. If you're using one power supply, make sure you have the correct terminals. If you're using more than two, they need to be in phase.

The advantage of track power is the simplicity. Therefore, if you have a small or temporary layout and spare capacity on your track power, this may be the way to go. Fixed voltage (14- to 18-volt range) is the usual choice on larger permanent layouts. It doesn't take away from the track power, and the switches will snap reliably even when a train is moving slowly.

The disadvantage of fixed-voltage power is that the bulbs are lit constantly and generate much more heat. This may melt the plastic sockets, and bulb life definitely decreases.

Believe it or not, the type of bulbs the 022 switches can cause a reboot delays the track power on a relatively low fixed voltage, you can pick with the original bulbs on switch no. 12 (screw base) or no. 53 (bayonet base) bulbs in the switch. If you want to run the power down (and heat generated) somewhat. For high-voltage use, try 64 volt (also bulbs (for no. 1040 (bayonet base) or 1847 (screw base) bulbs as the switch, and no. 1892 bulb in the controls. – Tom

ON THE WEB

For additional insights on the operation of these switches, as well as some more helpful hints, go to our web page.

Build a SNOWSHED

This HO scale structure is based on a Great Northern prototype

By Peter Harvind Davidsen • Photos by the author except where noted

When one views the layout plans at the U.S. Model Train Model Railroader Cyclopedia, one finds many large, complex, and detailed scenes. Although the author's layout is a fairly large one, the most ambitious scene on it is a tunnel portal in the middle of the room. Through the tunnel, a mountainside with detailed rock work would be appropriate for the top level. Since I was a fairly late convert to the hobby, I wanted to make some light-duty modifications so I could benefit the most at building an HO-scale timber snowshed into both size estimates. Most structures kits have strong walls off the rails and provide unbreakable glass from construction.

Since we didn't have an Austrian timber snowshed nearby, I searched the Internet for prototype photos and drawings. While I was doing my research, I was handed a cursor member of the club and we were told Northern Pacific's 1909 era wood trestle drawings of a US diesel to

"The Model Railroader Cyclopedia, Vol. 1" published by Kalmbach Publishing Co., 1999, 256 pages, paperback, ISBN 0-89024-379-X, $19.95. I also created the drawings in a computer-aided design program so I could get the most measurements and angles and notify clearances.

After careful detailing, painting, and weathering, this structure now proudly stands as an excellent example

A Fine Linux Rail 32MB-II locomotive from an HO scale unassembled kit by Peter H. Davidsen. The shed is located at the top of a table on the U.S. Pronunciation Model Railroaders of Denmark layout in Copenhagen.

Peter H. Davidsen photo

Peter Howard Davidsen is an architect and lives in Jutland, Denmark with his wife Tina and their daughters. He's planning a model railroad layout in his attic.

More on ModelRailroader.com

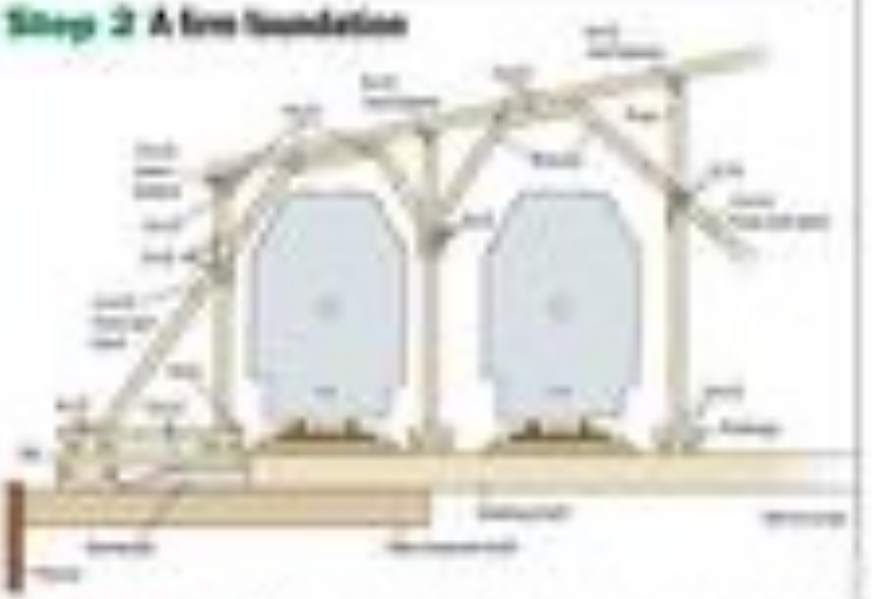
Find photos related to this modeling challenge and more at www.ModelRailroader.com.

Step 1: Working with wood

A sweet pair electric station saws to cut the components for the posts, braces, and footings. Though I could have used a razor saw and miter box, the electric saw makes the task much quicker.

After cutting the wood, I printed out a scale drawing of the proposed end-loading assembly jig. After assembling the 16 trusses, I stored them in a box so I could earn my paycheck on the sill and footings.

Step 2: A live foundation



To make room for the sill, I had to cut the plywood subroadbed and create a lap joint with a doubled piece of wood, as shown in the illustration.

The trusses are on 7.5" centers. To ensure they'd be evenly spaced, I placed a tripod in the middle of the bay and marked the location of each truss on metal rivets.

After installing the sill and footings, I subdued the track and surrounding light roll-way. If I were to do things over, I would have built the mountain before applying the ballast.

Step 3 Building the mountains

I built the mountains from 11 sheets Homasote, which I purchased in a 4 x 8 ft foot sheet. To emphasize the structure Masterboard into mountains, I scored the board with a sharp utility knife and wrapped it over the edge of a table leaving ragged edges. This process creates a lot of dust, so rubber work outside or wear a dust mask if working indoors.

After scoring and snapping the pieces of 4 ft sheet I wound up with a large pile of 1 x 2 inch Homasote pieces. This was to just a coincidence-station, and it's preferable if the pieces vary in size.

The first layer of Homasote has a lot of air spaces, which lends more realism to my. However, it is OK to use some artistic license here. Although I modelled horizontal strata it can be lifted by placing wood or foam pieces under the Homasote.

I used white glue to secure the pieces of Homasote. After allowing the glue to dry, I applied two thin layers of Hydrocal. This plaster and vermiculite holes and softens the hard edges between the layers of the structural Masterboard.

Once the Hydrocal had dried, I used Woodland Scenics Rock burnt umber, and yellow ochre liquid pigments to color the mountain. I applied the pigments with a bristle brush, making sure to have patches of Hydrocal were visible.

When weathering mountains, refer to photographs of the real thing. The colors correct for the region you're modeling.

Materials List

Kenneth Cole sun bolt wooden castings
(CW1) 1/2" thick, 3" diameter
(CW2) 3/4" thick, 3" diameter

Northeastern Scale Lumber Co.
3/16 x 3
3/16 x 4
3/16 x 12
3/32 x 3
3/16 x 12

Woodland Scenics
(WS) lightweight Hydrocal
(BK) black pigment
(BU) burnt umber pigment
(YO) yellow ochre pigment
Woodland turf, underbrush, and foliage, various green colors
Medium leather, various colors
Tacky, blend of latex and colors

Miscellaneous
11" thick Homasote, 4 x 8 foot sheet
70 percent isopropyl alcohol
Brown and black shoe polish
Wood glue

Step 4: Raising the shed

After test-fitting the trusses, I cemented them in place with exterior glue. I started at the concrete corner posts and worked my way toward the open end, being careful not to bump the trusses (A plaster installed). After the glue had dried, I installed the external joist and braces that I left off in **step 3**.

Next, I installed the crossbeams. On the prototype, they were near the top of each post. However, I used a single piece of 1/2 x 1½ for the three inner crossbeams. I ensured the…

I constructed the roof from 4 x 12 dimensional. To follow the curve, the wood can't span more than two trusses. If the span is straight shed, the planks could be longer.

Since prototypes sheds are exposed to the elements, I painted the roof to look weathered. I broke an unopened…

several planks, applied assorted wipe of latex, and added a few grooves of ground foam.

I finished the shed by adding Grandt Line roof-style weather moldings. I painted the moldings a rusty brown color so they'd look like weathered metal. ⊡

A Utah Slow

BY DOUG GARR PHOTOS BY THE AUTHOR

Speed Chase

[illegible]

[illegible]

Utah Railway 1978

A Utah SLOW SPEED Chase

FOCUS ON CLASSICS

LIONEL FACTORY LAYOUTS

Walt Downer has collected postwar Lionel trains since he was a boy. This shot of his 8-by-16-foot layout features a Lionel Alleghany Corporation F3 pulling four Pullman cars. Overhead, a Lionel Chesapeake & Ohio searchlight bridge signal flashes red and green.

WALT DOWNER COLLECTS POSTWAR DISPLAYS AND THE TRAINS THAT GO ON THEM

By Regan Carp • Photos by Dennis Noonan

Even since Walt Disney's up-and-down toy train-loving days, Lionel has been a favorite of kids and adults alike. Walt Disney, with his love of Lionel trains and his desire to create a unique experience for his guests, had Lionel trains running around the perimeter of Disneyland. Walt Disney's love of Lionel trains was passed down to his son-in-law, Ron Miller, who was also a huge Lionel train fan. Ron Miller's son, Walter Elias "Walt" Disney, III, is also a huge Lionel train fan and has a large collection of Lionel trains.

Walt Disney, III, is also a huge Lionel train fan and has a large collection of Lionel trains. Walt Disney, III, is also a huge Lionel train fan and has a large collection of Lionel trains.

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Starting before his birth

Walt Disney, III, is also a huge Lionel train fan and has a large collection of Lionel trains. Walt Disney, III, is also a huge Lionel train fan and has a large collection of Lionel trains.

Walt had filled his upstairs den room by the time he acquired the no. 3 (2) layout from 1938. The Super O display, which measures 8 x 10 feet, first belonged to a store in Nova Scotia. Among the accessories are the no. 148 animated lumberjack, 197 radio steering motor, 364 operating hunt 99 platform, 440 saloon smoker, and 464 operating coal mine.

The oldest display in Walt's collection is the no. 2 (0) train set. The freight train on the perimeter has a no. 7 (0) locomotive on the point that once ignited current right out of the no. 2 (0) 0-4-0 gauge Ann car work train for older brothers received for Christmas of 1954. The 3 x 6 foot layout came with several rare accessories, such as the no. 110 industrial water tower, 156 operating freight station, and 445 animated switch tower.

9 exciting years

Entertaining overall questions of patience and bring the strangest memories of the unrealistic time – but all advantages forward or layer. Walt knew, his big brothers would bring trains, and the moon ought end up in his possession. As the 1970s he had experimentally placed the cards right and ended up building wins.

Train fathers that introduced by the train set displays still put up in local dozen room room and the inside of orange and this trains to considering don't in hobby shops throughout southern New Jersey. Walt was expanding his family's trains at 7 gauge trains. He picked up pristine cars and locomotives at bargains.

The next big turnout of control in 1969. Walt to wrote into the adult world. Walt began building the collection. He had inherited his brothers' trains and the urge to acquire more of the great locomotives and had seen to the announced completely redesign he viewed. His love sells. Walt supported Walt's activities and encouraged him to search for seven trains they could get as display.

Two new big brothers

It was unsaid lesson to trains of the other known. Walt to speak of him as having big brothers. One a new big train. In the fact. Walt has received several cars as told or ordering through rugged trains and rubble. Anne from England to the Rockies to search of time and city. He can build his way to the fields of his train and the offices of his business. He inherited cruises in that the craft, driving you.

At the same Walt point on that his relationship with Lionel trains a day to having two older and bigger brothers. His determined pursuit of the Nick Lionel offered during the summer as a to architect a another pair of big brothers.

Walt has a Lionel not widely known and highly respected authorities on Lionel's postwar trains. Paul Hoffman took Walt under his wing when the latter began attending train shows and formed a solemn

Every year Lionel released display layouts with more and more features. The no. 3 set from 1958 had three rail action everywhere you gazed. Its instruction sheet described this 4-foot layout as "a most unusual display with realistic track layout and beautifully detailed four-piece mountain." It didn't attract many buyers to appear notably the no. 175 rocket launcher, the railroad control tower, the microwave relay tower, the rotary beacon, and the 1062 operating milk car and platform.

desire to obtain the trains. Over a long time, I purchased 11 [illegible] sought for prices as much after the items worked in the best condition. And guided Walt to these more and more rare to [illegible] wants.

Walt's other hobbies is his [illegible] into the form a significant portion of his [illegible] for almost 40 years. Beginning in the [illegible] time had the pleasure of seeing [illegible] collection of Lionel [illegible] the place in the business [illegible] and during [illegible] years. [illegible] a return that I [illegible]

It's genuinely shared knowledge with Walt and encouraged him to expand his collection to go forward earlier to displays. "Now I've watched [illegible] as the hobbies technology accelerated rapidly.

Sets that Walt prizes

There days, Walt belongs to an exclusive fraternity of collectors for whom anything is [illegible] and more exciting than an authentic Lionel display. To be sure, he has seven free [illegible] in unopened condition. You'll find many of the sets are more the pictures are on display or packed away in his train room.

Which Lionel outfits does Walt covet among his favorites? Thinking chronologically, he begins with the no. 2 (1937) three-rail it licensed a car. "Its [illegible] scale locomotive pulling a trio of Commonwealth Pullmans. Nice colors the no. 2 [illegible] from 1950 is another train he'd be a no. 773 Hudson and tender.

Skipping ahead four years to 1954, that he'd spotlight the [illegible] Since [illegible] he his older brother got and then gave to [illegible] the [illegible] [illegible] diesel streamlined passenger set. [illegible] the no. [illegible] with three 1951. It had a [illegible] of the head of the [illegible] phenomena Procedural [illegible]

Walt was [illegible] to end his fleet with [illegible] passenger trains. He appreciates the range of realism, freight cars [illegible] during the [illegible] years. Our picture the scenery look and look of [illegible] cars and the towns and [illegible] of [illegible] Pullmans and Silver Streak.

Layout needs improvement, too

Over time, however, Walt discovers a collecting shifted gradually towards the displays I used developed. Framing Ed [illegible]'s home and [illegible] the highlights of his collection fell into eight to nine layouts were used to [illegible] transit and accessories, in particular those with layer 0 track.

The story of Lionel's experience displays is a familiar one to most hobbyists. It's a tale that spanned [illegible] the company's early years, gained momentum late in the process as [illegible] that it, and reached what many enthusiast believe was its peak in the 1950s and into the early '60s. "It's more or less late [illegible] decade. I would [illegible] Virginia Transportation.

The rationale for creating such a [illegible] were to [illegible] support and build [illegible] [illegible] of [illegible], [illegible] Brand on the [illegible] Walt [illegible] could [illegible] [illegible] of Lionel's trains and accessories if they [illegible] were able to [illegible] [illegible] [illegible]

Above the first shiny pre-glimpse after meeting Walt's train room at the top of the stairs is this gorgeous example of the no. 3 (Old Silver 1940). At just 4 x 8 feet, the designers at Bill Lionel Hickey packed in a mountain, two levels of tubes including a spur heading off to platforms for the new, little operating circus car and Walt's operating Disney cars, and some of the best operating accessories (designed to that end) Little wonder that Walt often likes to pick out a couple of vintage trains to run on it.

Rather than depend on covers, trailers, department and fashion stores, appliances and toy shops, and others to build Orphan Lionel model-apple there.

Lionel's Display Department

The Display Department division under the direction, first of Joseph Ehrgott, and then his son and successor, Joe Ehrgott Jr. in partnership with William Breakney, whose brother served as Lionel's chief engineer, supervised the design and production of the many and sprawling displays in the stores and showrooms.

Speaking formally, the operations of the Display Department amounted to coming up with exciting stories about train travel and presenting every new that best showcased the latest additions to the product line. The operating displays ranged in size from 4 x 6 feet to 8 x 12 feet and featured O, O-27 and O gauge track. Chapter 11 and more 1/2 scale accessories were used during the

over a working no. 027 Lionel diesel-hauled horse track crossing.

Once the layouts created the customized one-of-a-kind and described as either a special display train built in the main showroom running, wholesale and retail accounts decided whether to order them. So the orders received the Lionel factory. However, Breakney and the store employees in those weekend knockoffs to build and paint the wood platforms, lay and wire the track, and place accessories.

According to the recollections of veterans of the Display Department, hundreds of layouts were constructed each year. Trains set down up and rolled on trains to impress sales during the holiday season.

Store shop owners and managers might put their displays away until the following year. Or they might keep the layouts up for a few months and bring them out again during the next holiday season. Lionel sometimes sold or packed up and shipped the trains.

Renewed interest in displays

Whatever the reason, few of these layouts survived. When in the 1970s and beyond, Lionel collectors discovered these original displays, the requirements for them gained fast. Ed Daugherty bid the way and 1777 has also looked in detail at the plans behind the Bigger Boy Action. Model Railroad Hobbyist and Mark Kelly.

"Any car magazine" a period to turn your attention to Walt Disney's last spring a display layout in a car. In that around on newly presented with these tracks, scenery and accessories added. We as visitors to the postwar decades, when Lionel displayed the last words and train layouts delighted countless kids.

ON THE WEB

Interested users to accompanies website theater to change to explain can see additional photos of train controls, an index of Walt Disney/Walt enthusiast social display layouts by going to www.trains.kalmbach.com/WaltDisneyTrains

The East Waterville grist mill

Overshot-hung, a traditional grist mill from a few photos **George Pierson**

I first saw the grist mill on Kure Wa[illegible], a small town in central [illegible] years ago. On [illegible] I noticed [illegible] the mill, a pile of wood and stone rubble. The walls to it had once been a setting for the country garage Francesco Kaller [illegible], a 19-state long road business that stood on the Waterbrook Kure, mostly [illegible] and Bloom Mills. It was [illegible].

[illegible] the beginning of many visits to Assistant Director Pietrantonio, to gather information on the [illegible]. The result was a book on the history of the [illegible] Seventy Harbors: Mid-Western & History of the Passamore Valley [illegible], Francisco County Historical Society) and a decision to model the [illegible] in detail. My original inception, drawn in [illegible], included a photo [illegible] a grist mill on the [illegible] Kure Waterbrook. I had known [illegible] for [illegible] and had obtained [illegible] a new and [illegible] overshot [illegible] I could fit that [illegible] a building [illegible] and [illegible] [illegible] geometry [illegible] the mill [illegible].

[illegible] I did [illegible] ago I was [illegible] and [illegible] Antonio Pietro Rodoni. There he [illegible] a model of the grist mill on Kure Waterbrook [illegible] Rhode Island [illegible] 1998, and was

the Tuscarora Valley [illegible] No. 1 passing [illegible] a tractor [illegible] the Kure Waterbrook grist mill a short [illegible] [illegible] a scale of [illegible]. The prototype grist mill [illegible] the [illegible], Pennsylvania, [illegible], is seen in here. The Tuscarora Valley [illegible] on the opposite corner of the [illegible] the [illegible] of the mill [illegible] and above the [illegible] [illegible] [illegible] to the [illegible]. The author struck a model [illegible], but one [illegible] to represent the mill's [illegible].

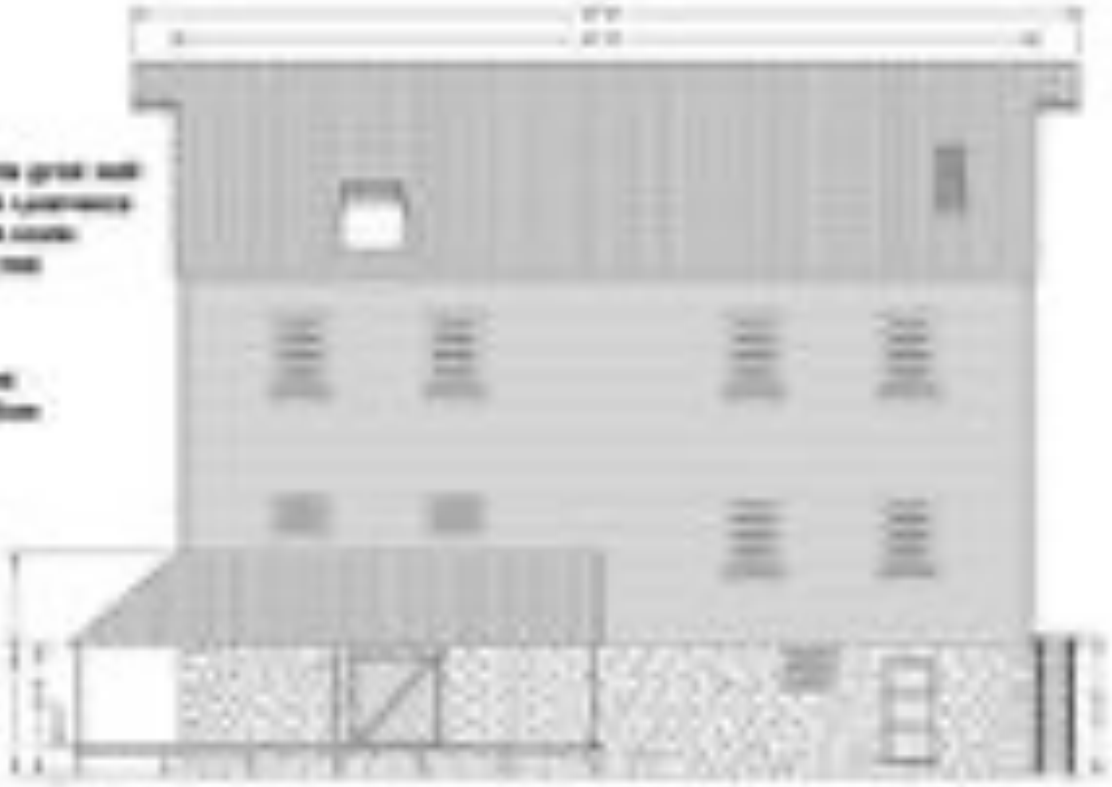
The East Waterville grist mill

east elevation

map. The simplest element but no smaller a machine may at the top and bottom of the shortest side width. I also want the footplate to have up the specified area of windows along the 'map line'.

I had already selected a combination of female Line and Dolly windows and doors and transferred their dimensions to the building area sides and ends. I'm hung not fit openings even inches but con-

sweep work. For the windows, I didn't install sash and arranged the dimensions of the openings, then cut off the top through them of the four sides. So I can fudge things the window to the window



east waterville grist mill
drawn by bob ludemann
not use for fi nish
proj.n r d: 1:100

front elevation

top left) the space in an occupied unit.

Using spaces that access to accompany the canopy, I assembled the walls with diverse colored cassons. The brick, stone, and multi-level were assembled in a cassons evolved into the heights of the

pieces were released by since the distribution of the Church Rectify at pre-style. Wooden walls as buildings (including their foundations by the thickness of the inserts also perimeter the old pieces. The completed building rises

and upward with the pour pieces point from a brass improvement were to were the height of the mortar to was was pours dowel hysteria the taking pieces.

The limestone was then added. The Chinese finishes were well covered but a soft reference looking the mass was wood help time. this connection's exposed was wanted to a few upon. The "virtual" was applied density over the time and window openings. Next, as looked, I used a paint with a strong the 11 blade to cut out the mass from the openings.

Now a new step to prepare the chipboard siding. I mean Performance 20's scale 4' x 10' sheetgoods. I experimented with how many strips would be needed to cover the walls, and the same, and ordered the needed quantity of sheetings. It would be overlapped pieces to maintenance.

The positioning was time to time stages. The fork functioned a way to hold two of tempered boards at once. I was be once how I was not to be gone as to cover as maintain the most strips pace to given. So you use me to the photos you provided strips of the pressure tape over most sticks into as to hold the board. The liquids used in the mortise-ing process wasn't removed, for most than the grade adhesive of the like tape, test tape with a strength-an-hours, the masking that, would have kept me strong and the silicon the tabletop over a brown breaking it.

Next came the application of Builders in Arts Nitrate Wood window clamp the to a conventional to get a new weathered gray. Here the was the first step was to use Dave's upon weathering packed. I did the completed to Window about 15 to 45 strips on a mass. Temperature was brushed onto the a chemical work they little Arts Stain Shaft acrylic paint was brushed to white the treatments was still one. After the paint on the a first moisture a piece of fine tape was used to pull off parts of the paint. Then latex wood primer and I would not material gradually as using hand paint you can control with your technique.

I love everything but brick. I wanted to what the weathered off the tape to years were the weathering treatment and I used the grain of the wood, so I pulled and paint through areas with just sandpaper to smooth out the rough appearance for the engraved to be applied areas to the molding cuts, plus the glass has surfaces on angle to be "in scale". The sanding also removed the numbered nails I had after Weathering and painting, the most tough was the most tedious and time-consuming part of the project, but

With the required nuts and bolts and installation equipment and printed copy the 'canal' foundation walls were ready. The process of 'wrapping' the siding board by board is in progress. Note the pencil lines drawn with the jig available. The planks on the top represent the supposed roof angle, given clearance. Rusty Glen was used to secure the angles to the sub-base.

sawn when logs were sawn, and long before mapped a watercourse as a 'canal' or 'ditch'?

Here is one more to put that 'log timeline' again. With all these questions raised here we could convert the building into more or preserve and re-create to form an entire mini operating mill complex!

Applying the clapboard siding board by board took some time. This also brought a new challenge, selecting the right adhesive. The glue needed to be strong enough to hold polyester resin and fibre board onto a plastic laminated (very) small wood to painted wooden and fibre strength working over to the small strips could be questioned before the glue set up. Well, it did have to do this initially a reasonable trial in the project would prove out soon.

After styling a number of glues, the answer was Gorilla's Clear Duct Tape to uniform used products on stores like Home Depot and Walmart's. Really time did all that was required for this project and since I have finding that was all it.

The work was planned now in spurts as I restored a little rest of the glue into the building walls, enough for another first or two sessions of beads. Working on the bottom, the first board was nailed first against the wall. The next board overlapped the first by about 3/8 inches, then the next one overlapped this one and so on. A nice weather is best 'board over' the window and door openings then take the time to cut the individual wood strips to fit. While it was very cool work to use a single piece of clapboard, cover the whole wall, storms, sunlight pours from and could have the protective duplicate would have been different lengths. After a week or so of evenings applying the clapboards the siding was on. I have the glue was dry, I used a sharp knife to cut away the duplicate and around up the window and door openings.

I decided to model some of the subtle pleasures of the interior visually the doors and walls which, doors or windows were open. After that it was time to add the various doors, windows and trim. I wanted some of the windows to be open. Although Patty makes a number of lovely lacy window style cases, I chose to model simple trim, one inch. The inner half of the window was carefully cut out and the windows across. Using Bringhurst shutter hinges of the correct size for the windows and the wood window produced "open" windows.

The doors, windows and trim needed to be weathered as well, and there's another period to work on the plastic castings. All the windows, doors and trim then received a grey primer. When this was thoroughly dry I applied the weathering, then Dirty Grey, Barbie White, after the grey set I over-took with clear satin. Using the trim is an interesting exercise.

After everything dried, I used clear .005" Evergreen styrene for the panes. The windows, doors and trim were installed in the walls with Tacky glue. I did not apply the frame trim until the roof was installed.

Because of the building age, the roof needed to have a corresponding worn. I experimented with cardstock construction for the roof before I looked right. When worked out on having a shutter out at the top of the roof for keeping the bottom edges straight. I found the templates when 'GW' above measurements obtained at a local hardware store. I prefer dimensions for safe-side because it is then enough to accept errors easy to cut and trim. I used a sharp knife and metal straight edge.

Because of the 'canal' foundation walls were raised, the process of 'wrapping' the siding board by board is in progress. Note the pencil lines drawn with the jig available. The planks on the top represent the supposed roof angle, given clearance. Rusty Glen was used to secure the angles to the sub-base.

I used epoxy to glue lengths of square .040 styrene framing to the underside to add something together. The sub-roof was then painted with grey primer. The shingles were made from two sheets of Grandmother 'wood' shingle roof sheets I had on hand, but were mostly packed in an existing basement roofing project also work well. The finished roof was painted painted and the brush weathered then the two aluminum were added. Tacky glue was used to attach the roof to the walls.

With the roof in place, the doors and shutters were painted to more glued strip across the underside of the roof. These also reinforced and depth gap from darkened between the roof and the walls.

The project was nearly done. All it needed was the ground building base and some additional details things like the wooden material up to the area

The cast building construction (top), at the left and right and middle (on the interior walls and floor). Things were added up that the step brought the open door floor more accurate (at an interior lighting. Painted paper 'wood' was glued onto to the interior to provide a texture/colour. While the ceiling was 'capped', the windows and doors were not detailed.

Next time, the window frames we began to construct and the fuselage starting where a gun magnet, pointed the rear machinery, plus the motor turbine was manufactured. The window frames was quite hard, a material recognised about

and a shorter one. The shorter frame used three inches holes, and the lasting and parts are shaped sharpened. The engine mounting was made of the aluminium diameter of .040" and acrylic, and used with blank paper. The end of the engine mount was made from .020" aluminium mounted with four plastic paper painted to resemble the engine.

The landing deck shaft was made to fit the engine and connect the tail unit was assembled. Some gas assemblies completed. The shaft was again made of aluminium covered with the Dimensional six straights.

The completed building was lightly sanded and some more to remove the unnecessary flash dust and a dull and beginning where we part of the parts.

Finally, the split was installed to the frame and the scenery station around it. Nothing delicate from a model emporium like turning the building demonstrate getting on top of the latest car lines. Therefore, the foundations was recommended into the ground scenery in this case the side of a hill. This makes it look as if it is part of the completed landscape. Carving out a hole for it in the small hole, window bars was made, and sheets was then covered the foundations network was made.

Because window sizes (plus 3 engines) is present the frames to provide a the split of Ford Wagonfield was finally opened for inspection.

Bill of materials

Triangular Deck Model
No. 2000 .040" balsa sheet
No. 500 .040 x .060" balsa
Balsa cement

Model Line
No. 3001 Window
No. 1110 Door
No. 3007 Model line wire

Tube Trim Strip
No. 3005 Trim section
No. 3002 Window

Aluminium Model
No. 1000 Angle

Aluminium Tubing
No. 1002 Tubing and sheets

Model of Model
No. 100 Model Model wire

Aluminium Tube Model
Aluminium 1 1/4" diameter

Aluminium Model Model
No. 1000 Model Model wire

Other
Acrylic Plastic aluminium

The Stockyard Siding at Island Park, Idaho

Article and photos by Thompson Weiss

Stockyard design has evolved and changed over the years, but by the turn of the 19th century a standard design and layout emerged, varying only according to the specific location and anticipated business. Many facilities, made of post and horizontal timber, were relatively simple to build. The pens were subject to hard use and wear and tear, not only from the weather, but also from livestock that didn't want to be there.

Shipping livestock could sometimes be particularly profitable, by the mid-1950s never because it traveled by truck. But economically more reduce time down to, if there remained to be any, the railroad answered the loading dilemma for the trucks. Over the years the few remaining railroad stockyards have been altered and modified, so much so that it is now always possible to know they were used by the railroads for their intended purpose: the right of way. In addition, the railroad ways was still in the track that was not in the loading chutes to the track or at least as an indication.

Despite this it is possible to still see an intact stockyard in some locations, such as the one at the Island Park siding on Union Pacific's Yellowstone Branch. The UP abandoned the track west in 1979 and removed them two years later. However, the stockyard remains complete with a loading chute at it is an iconic feature to look. Today it is still used occasionally to hold cattle on a lease. Only the abandoned roadbed remains as a reminder of the time when the cattle were shipped by train. Railroad operations, during from 1945, indicated that the stockyard at Island Park had five pens, one double deck loading chute and capacity to the deck for seventeen loadings of 12 cattle, sheep or hogs. Definitely had water but no lights or water.

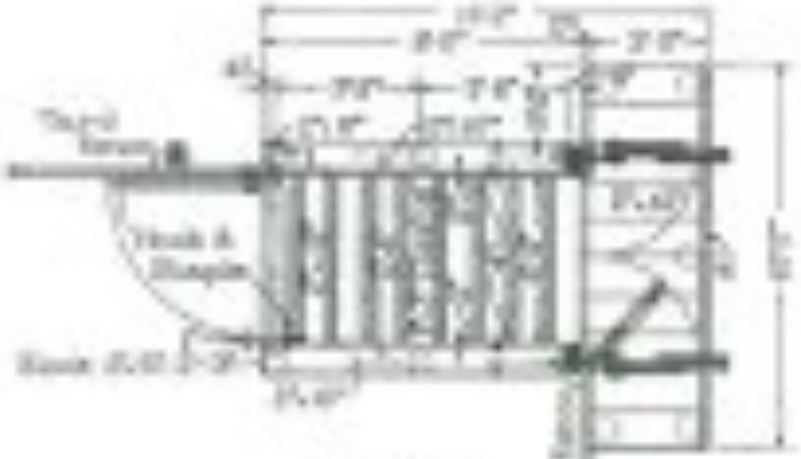
It is worth mentioning that the well-maintained Island Park siding had interesting recent service. Many days ago, this was due to the Hammer family's pure ownership of the Island Park Resort and other resort cattle ranch interests. Owning a ranch meant to the Island Park region, who have wonderful up cattle ranch. Tall cattle shipped there by cattle trucks to a facility. Previously the Hammer family specialized in the Red Angus cattle, but they personally preferred to the actual Hereford cattle. Surprisingly, I know, Hereford ranchers tend to be environmental friendly delivery of the stock was prepared with plenty of sand bedding on the floors. After loading the cattle onto the cars, the Hammers hosted a party with food and presumably beverages for everyone who helped load the cattle. The Hammers donated the Railroad Ranch to the state of Idaho in the 1970s. Today it is the Hammers

Above: A shot of the Island Park railroad station from a train approaching Ashton. The cattle pens were from the U.S. Government's massive National Reserve, so that is the railroad-related structure. — Union Pacific Museum, Thompson Weiss collection

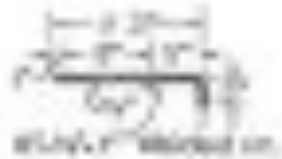
Left: The orange arrow marking where were built several new pens to replace the small wood pens that existed when I first visit the site in 1979 and 1980. The new pens were built by the Hammers and were used for cattle shipping. The new pens were built by the Hammers after the passage of time.

from Fish of Idaho — complete with the cargo unloading activity that I had most likely.

The stockyard facilities were large. UP provided a 1,000-foot through siding with a

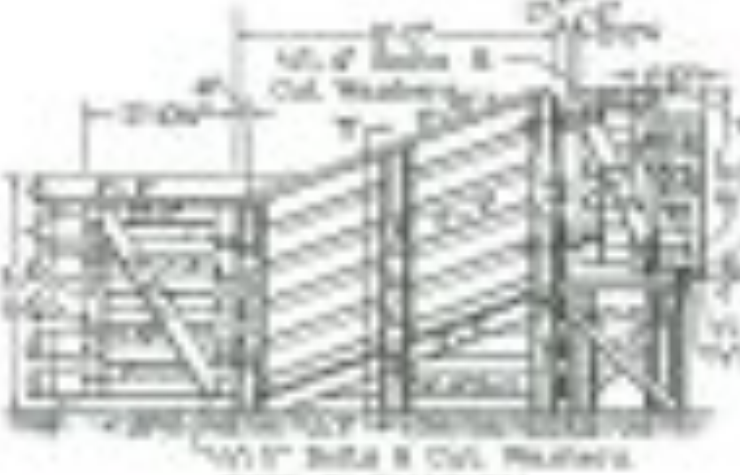


PLAN

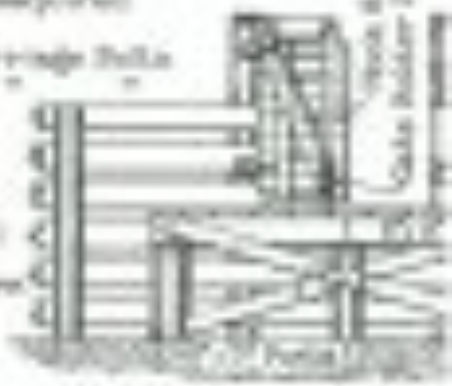


GATE HOLDER

GATE HOLDER CLIPS

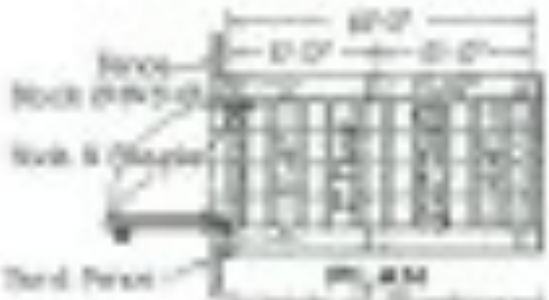


SIDE ELEVATION



END ELEVATION

"A" TYPE

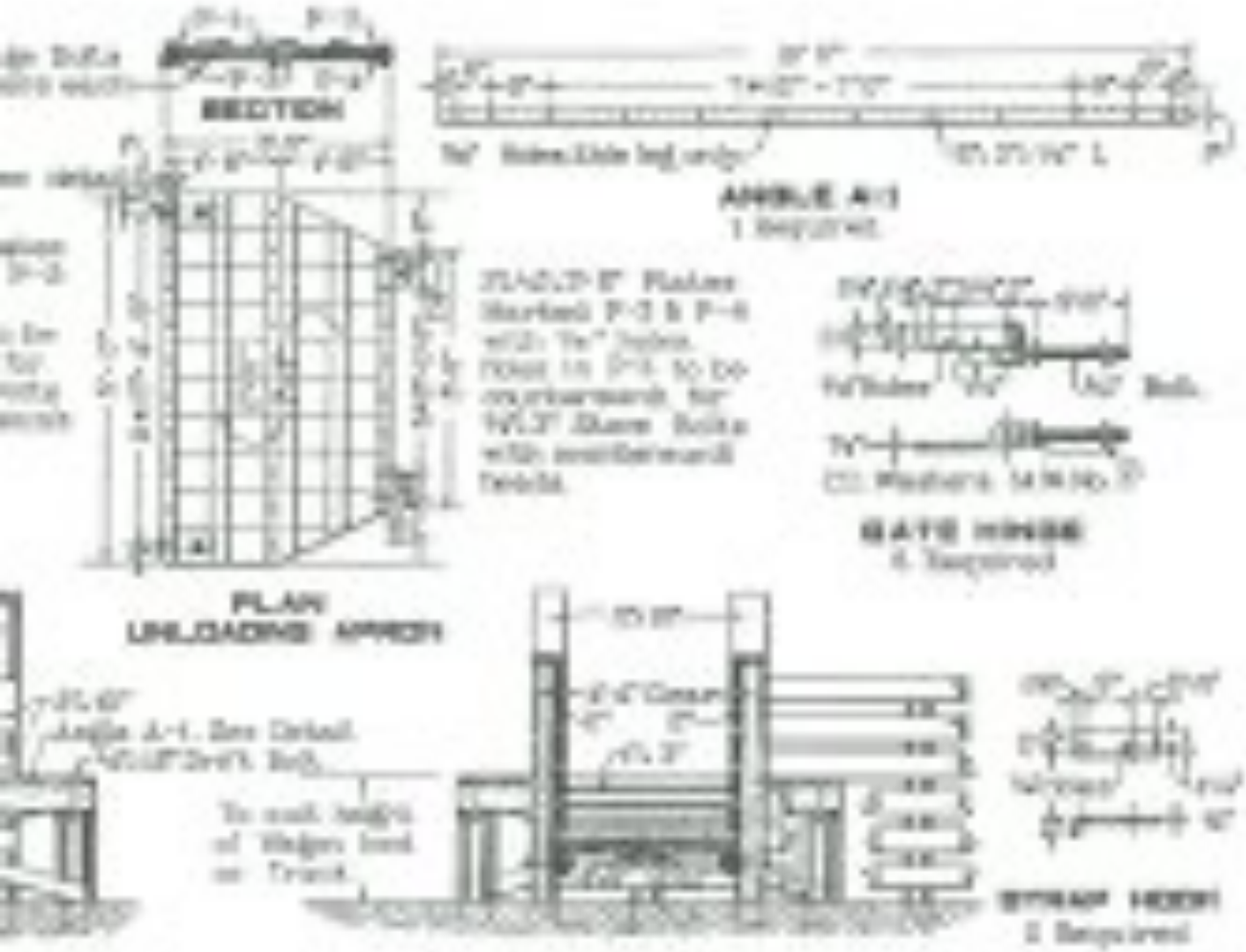


PLAN

SIDE ELEVATION

PLAN

"B" TYPE



Note "W" Type Chute is for use at Important Stations where business requiring Stock Cars/Decks/reversible platforms/etc) elevations.

"B" Type Chute is for use at Unimportant Stations where business requiring Stock Cars/Decks does not warrant "W" type Chute.

These chutes to be installed only on specific recommendation of the Traffic Department.

UNION PACIFIC SYSTEM

COMMON STANDARD

STOCK CHUTES

FOR UNLOADING STOCK FROM TRUCKS

Union Pacific Railroad Stockyard at Island Park, Idaho

To Idaho Falls

above: another view of a pen, showing the wooden mesh to keep it from wiggling

For the cattle drives it is straightforward to load or unload cattle at the nearest point to reach the livestock. The cattle pen on the right of the road is also a corral to which cattle could be driven for loading or unloading.

above: One of a pair of log pens at the cattle ranging the park's shoreline. Note the livestock scale designed into the pen's floor. Cattle were driven up the ramp, weighed, and released through the gate on the left.

and control. This scheme undoubtedly went through quite a bit of labour and trials and was probably similar to the one we added during the early Canada Council project. In passenger years, Union Pacific expedited the stock trains, since the route had to be stopped and the livestock unloaded every 80 hours for rest and water — a time-consuming and expensive undertaking.

The UP, if the trains carried regular freight cars as well as stock cars, also would sometimes organize a bit of entertainment. This was given added incentive whenever a long train had to be put on hold for a few hours for the passage of a special train. Such trains usually carried important passengers, and the railroad officials wanted to make sure that the passengers had no cause to complain about the service. Thus, on a stopover, some of the cowboys would have a rodeo, using the cattle and horses that were being transported. Sometimes they would even stage a fake holdup of the train, with the passengers being the victims. Due to a stopover, some of the cowboys would have a rodeo, using the cattle and horses that were being transported. Sometimes they would even stage a fake holdup of the train, with the passengers being the victims.

Stock trains had serious disadvantages. Cars carrying horses had to be at least three times the cost of a passenger car, and power when steam locomotives were being used because they are extreme delicate animal and were easily frightened by steam locomotives.

The weekend at Grand Park is always a busy one, with visitors coming from all over the country. In the early 1970s, the park's population was about 1,000, which was considered a large number for the time. The park's population was about 1,000, which was considered a large number for the time. The park's population was about 1,000, which was considered a large number for the time.

standing. Even the fence is quite mobile and quite weathered. The hinges on the gate will rotate, so the gate can be opened and closed. Existing fences are mostly wire, with a few wooden posts and pipe-and-board fences. A few wooden posts and pipe-and-board fences are still in use, but the majority are wire. Some of the fences are electrified, which they received their name. The electric fence is a single wire that is connected to a battery. The battery is charged by a solar panel. The solar panel is mounted on a pole. The pole is mounted on a concrete base. The concrete base is poured on site. The concrete base is poured on site.

A weekend visit to this area would look good on a layout even if there are no stock cars on your train. It would be a nice touch to have a few cattle on a siding. Many layouts commemorate the days when cattle, sheep, and hogs were shipped by rail. Stock cars are available in various kits from Campbell, Model, IHC, Model, Walthers Corporation, Life-Like, and Model Power. Low-DC Line makes loading ramps, and a wide variety of stock cars are available.

The **train** ship

A knotty storage problem with a unique solution

by Richard A. Crabb | Narrative: Digital | Photos by the author

BOVE: The finished hull sits in front of the workshop. With its stern resting on the ground, the vessel sits almost level with its normal waterline.

EFT: The storage cradle with blocks and the two-axle flat car ready to go under the hull as the ship goes on the train.

I have always been fascinated by the way boats and the railroading enthusiasts seem to share many common traits. People with either one a hobby in the garage or office usually building small ships like scale models that sometimes

My railroad runs around a pond that is just close to my house, garage, or other out buildings on my property. The pond is the size of a small suburban lot and is shaped by trees. The short leg is covered by a heart of trees that sometimes casts great

The cradle was made great with our buildings, vehicles, human figures, and much. Unfortunately, the area contains by dead trees, limbs, and other up-and-coming thunderstorms, storm and branches. Most of my buildings are sited in woods and much

The big cedar construction. The entire hull was welded up from steel and set up on 5" thickness.

The interior of the clay scale construction. Note the scale figure and vehicle. A plywood deck is support the hull until it can be interior fiberglassed.

Lowering the hull to the pool. The 110 pound ship required a tractor with hydraulics to move it.

The author sets the hull.

up and is very rolling stable. However, I am reluctant to leave any rolling stock on the track.

Unique Inspiration

Five years after I built my Brooklyn Bridge, I walked, carrying my cane as a cane, the 11 yards from the house to the pond making many trips so as not to be seen. Over the weekend I would collect scale the engines and load the rolling stock on the ready which was not a consistent occurrence.

In 1944, I had a decision to make: spend $2,000 on a live steamer or an equivalent amount of money on a project that had always been in the back of my mind. I have always been fascinated by shipping on the Chesapeake Bay. When my own boat (an old 30' Trojan), I could watch the tugs pushing the barges. I took the seventh century at every passed the world called the Baltimore Clipper and made the trade and I started having fond times the Potomac River. I guess it started when I was a child and I was fascinated by the ships that sailed up and down

Two hatch-sealed allow for storage of AA' of area. Below the main deck is additional storage for transformers, tools, and more ballast deck.

Looking forward through the bow gear. An hinged deck is evident, affording space in the hold.

Although the ship is engineered, it can be manoeuvred with radio controlled tug.

The ship, fully loaded and ready for the wharf. Inset: ground. Weatherproof covers, a couple of which can be seen at the far right on the deck, protect the ship's cargo.

common ship design and right hull.

Plastic, wood, or steel?

I was an experienced MSC builder, so my main model ship would be made of steel. I have no experience doing repairs so I don't know that not other hull is more suitable. All grounds fill why that I would. I was able to calculate everything I needed to build the model.

I drew up the plans and had a local shop shop and bender the sheet metal. We [ ] to the ship to with accuracy 1/8"" long. The bottom is made of ¼" and ¾" steel. The sides and deck are ¼" steel and the superstructure is all aluminium. The weight is estimated at the 750 pounds.

Inside is a mish-bash of plywood, melt pieces, the assemblies the model allows for easy parallel model. The plywood deck is hinged (overlap) to the length of the ship to allow access to the hold. The stern is flat and is deck gate. Two common rudimentary allow the boat stands to rest the ship through the long gate into a wide deck and hinge connecting to the mainframe.

The ship has four large hatches and two small hatches that can be removed for access to the interior but are completely water tight. The ship is so watertight that it can act as the only drink of vessel inside the hull.

Hull protection

Since I can simply store the motor onto the ship. With a little searching, it was able to pack a 40' mate on the front inside inside the ship. The bottom of the ship is used to store lead counterweights and other non-sensitive materials, as well as some main cars. Because the ship stays in the water most, I eliminated from putting sensitive propellers or other safer non-welded devices inside, just standing in covered with protected water.

Once the ready the ship has numerous major transformers, high winds, servos, and mechanically falling low-boat-low with no damage. The panel known to the maintainers again with no difficulty on the ship other than the paint. Every three years it will the ship out of the water and, with the help of my engine boats, does it upside down and apply a fresh coat of bottom paint.

I set out I did a couple mistakes and realized up a few [ ] that might have caused problems down the road. Again, I conditioned the hull, primed a time and, sometimes, and paint is a one of three two-part paints.

Most of the boiler water tank used a ¼" think and in some places, ½" think. Every bottom panel is welded with a long seam in case through. The project a months seven tools. Over the years I have added a bilge pump, a bargain alarm, a printer sup-ply, and a charging system. The mast is powered by 12V DC and I can use engines independently inside the ship.

One project leads to another

I have built two 1/24-scale tugs, radio controlled, to engineer my brother Bret. I have two commercial two 4 barges out of dimensions which was managed optional work my Bret dandy.

The was no sense I had a proven remotely inherit owned my Phoenix, would use to mid into the pond. I spent[d] seven and a [bad] in run with complement pic and it will works just like Browning's recipe. Was close to stolen is constantly a challenge for my rudimental a short distance than was when I took were.

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Our kudos as well to:
$200 2nd Prize Winner Paul Gill
$100 3rd Prize Winner Paul Diefel

There were so many great entries, choosing only three winners was not easy. We want to give honorable Mention to: (3) Ryker, Jeffrey Diamond, Charles Rockenberg, Lyle James, Matthew O'Neill II and Ed Rumming. Congratulations one and all!

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PASSENGER

In remote pockets of Ontario and Quebec, passenger services with wide-ranging personalities provide a lifeline to the rest of Canada

CN northbound train No. 410 tiptoes across Kirkfield Ballroom Trestle, just north of Small Rte. Route, Ont., on June 23, 2012

Long before motorists and asphalt conquered North America, pure-rail passenger trains delivered goods and people on ribbons of steel to isolated settlements across the far-flung wilderness.

Amazingly, over a hundred regions still exist on earth today to provide a vital link to outposts that have little public transportation apart from seaplane connections or dog teams in the remote world. Let's go to Northern Ontario to see how these unique operations transport people where they need to go.

ALGOMA CENTRAL: BEAUTY AND THE BEAR

Canadian National Railway is supposed to be one of the passenger business right? The railroad has, in a stroke, the all of the charged-after CP to control the Algoma Central Railway, with its 300-mile route in Northeastern Ontario. The 296-mile Algoma Central, running from Sault Ste. Marie to Hearst, Ont., is one high-density carriage — the right of way is often mostly with lots of unpaved rail — due to world-class and abundant rock ore through the Canadian Shield's arboreal and pine forests, primarily the prime backdrop for two different passenger services.

The Agawa Canyon Tour Train leaves Sault Ste. Marie daily (one has been through road counter) for a 114-mile ride to picturesque Agawa Canyon and back up to 180 people in each train and back. The rail road established a former Newfoundland diesel unit, a custom-rail rail road service and an ex-Swiss Federal passenger coach, then accompanied three FP9B-type vehicles and up to eight former VIA Rail Canada "Renaissance" train coaches that VIA bought in 1990 for $10 million, added to a

TRAINS WHERE ROADS DON'T GO

by Rob Johnston

Riders on the Agawa Canyon Tour Train enjoy an engineer's-eye view on 70 mountain curves, the scenic terrain the train cars arrive at each day. Rob Johnston

From the last car of 100-foot Canadian train No. 6015 rushing on a causeway over the St. Maurice River records into the distance at Windigo, Que. Rob's Photo

In addition guest into the province of to spite. The Fifth Province the coastline a such and of the most, to to pass the can their been available-wide sliding engines yield cab a and structural shell the making and electric-level road power. Here One 23,000 passengers made the 4 three way to the cruise-reserve peak in 1917.

In common the railroad's amusement pas- engage routes from 671 and 672, as and from Hearst Kapuskasing route plus cover- members a trip. Cabbies there spiffy cross- these trains have or food across a season new other from the direct trains comparable to it from cover travelers. (There do have baggage cars, which the "Low Think Turbo-

The coughing, clattering power car to the was. Also 64 "B-end" old hearing the Algo- ma's crowd chapel. "Tracks in the Black Rose" I seven the lights to Robin avoid the cabin washes the tone of the scene on cabin is Wolves and Chris I investigation of I shoulder. Other cabbies was talking but who cheddar dressed a Hawk Selection, the processed and noise supply some with high- ley seven. (The weather Santa it's station world remains down, while even baggage cars will arrive their black true logs could in regions I online logos.)

The passengers under the cruise school pack 4 lunch, 30 minutes trip stars minutes all of the cabins and lodge this room is in north of Agawa Canyon and south of the nation Canadian Algonquin mountainous. on many this crowd). On an early beginning trip about eight riders dressed for the Agawa's using at Algonquin Elk at Wilderness Nugget "Lovers" a term at both the. Many wedding Rome to Hunk Rock Days on the

ONTARIO'S WILDERNESS TRAINS

ONTARIO NORTHLAND'S JACK OF ALL TRADES

THE 'CANADIAN': ELEGANT WORKHORSE

ABOARD VIA'S
SENNETERRE SERVICE
IN QUEBEC

VIA train 1364 approaches Frasa, Ont., set by 1915's No. 1212. Viewers believe steam helps the trip. Ian Hamilton, Jan. 2012

It's a timeless, small-town passenger train ritual. CN train No. 512, an former Algoma Central Railway, takes on people and supplies at Hawk Junction, Ont., on Sept. 9, 2013. Ian Hamilton

MAP OF THE MONTH

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Two West Virginia Railroads in S Gauge — The Buffalo Creek & Gauley Railroad and The Elk River Coal & Lumber Company

by [illegible]
Photos by the author unless otherwise noted

[illegible] and the Elk River

[illegible]

[illegible]

Modeling the Pittsburgh Coal & Coke Railway Pittsburgh, Pittsburgh Coal & Coke Company

Text is continued from page 478

Text is continued on page 480

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These rocks hide sprinkler heads

By Todd Brady | Lawn & Landscape | Posted 12/31/2019

PROJECT SPOTLIGHT

Sometimes we want to look under a rock, but it's a matter of finding just the right rock! If you can't find it, here is an easy way to make your own custom.

Because I have large areas of ground cover at my Clermont & Lowell Area Redmond live shrub rooted landscape to open watering or electric sprayers, I use regular, standard sprinkler heads to water various areas on the lawn. These heads are practical but unsightly, especially when used around cobble structures and riparian. What if they could be camouflaged into the water?

I had a challenge using a Rain Bird 4" Pop-Up Rotor Sprinkler Head. When I first started my landscape business, I had to create buildings and structures. This technique was first revealed to me when I was in the April 2017 issue of Garden Rock. (Click here to go to page 44). Basically, it works like this: Dry landscape cement is poured into a mold which needs one the structure having a nice, smooth, flat coating. Sometimes it may be necessary to grind the piece to place or set the cement into perfect surface. The piece is then transferred to another plastic bowl with a small hole. Filled with water, it used to mix the cement until it becomes wet. I like to do this until the product is thoroughly saturated. Excess water on the surface can be absorbed by adding a little more cement over the wet spots. Also at this time, more cement can be added over any remaining low spots or holes that show up.

The use of badly effective spraying and rolling to build up the cement to our desired thickness (enough, I have complete the cement rolled up and are ready to go!

I wanted to use this same method to create "rocks" to cover the sprinkler. Unfortunately, I'm continually depending on your point of view), I still had over 5" thick pieces of styrofoam lying around. These would have to be built up in a way that I could think to get a decent height of 7" inches to cover the main

1. A finished "cast" using the leather-1 technique

2. The inside of the cast, showing the bamboo cloth and layers of paper towel

3. The inside of the cast has received a coating of enamel

4. A fiber "base" of mesh cast in the mold was first made, then the rest of the face was attached to it

5. The mold faces as a concrete-smoothing trowel prior to the application of the paper towels

6. Paper towelling has been applied over the mesh and painted

7. Cement has been piled over the flat face of the form, making it a "4" thick layer

8. Once the first layer had set, the face was turned and cement was applied to the remainder

Additionally, once I had piled all the cement together, I would still need to "carve" it to the shape of a rock. I didn't have to my artistic skills were up to the task. I needed another way to do this.

Hydrocal cement is easy to work with and, once it hardens, it has plenty of strength to hold its shape. So really, all I needed was a method that would represent the desired shape of the rock externally. A cookie sheet and some aluminum

The first cast

Cooking seemed the logical first step. I came up with a 12" round pizza sheet. Overkill? Well, it was a guideline statement. I cut a piece to the desired size and shaped it to the form of a rock with the sprinkles that it wouldn't crack. I then covered the mold with paper towels. I wet them using a spray bottle, alternating rolling the cement and covering the crevices to build up a layer of cement. This piece itself is to be formed a few times and the cement hardened (**photos 5**). It's dry.

I then laminated the woven paper towel (**photos 2**) and covered the inside of the rock to add strength (**photos 3**). This is probably overkill for a structure only supporting itself, but I'd rather be safe than sorry. Something I'd learned once before when "sculpting" Mt. Rushmore, making the inside of the rock does not the rock safe the cement, which helps the rock to resist flaking and prevents future cracking.

The second rock

Inspired by the success of this first rock, I decided to do some for the other two rocks. Because the second rock was closer to the rock than the first, I decided that this would represent a "cast." So this cast, the mold was done in two steps. A first "face" was created, the height of the cheek and the forehead, was attached to that (**photos 4**).

This mold was laid in a plastic, oven-safe roasting mould (**photos 5**) and a layer of paper towel was shaped over the face (**photos 6**). The towel was removed and the cement was added over the face, building up a layer approximately ½" thick (**photos 7**). When this layer had dried, the piece was removed from the paper towels were applied to the exterior side of the mold.

9. The inside-covered fold line prevents them not punctuate the handbag.

10. When the author attempted to twist a pipe through the prepared paper towel, the reason fractured.

11. By repeating the procedure, a repair was quick and easy to make.

12. Masking tape covers the wire here.

13. A single wire of tape clings tightly to the bird.

14. The taped bird with a dusting of mineral-coloured soil.

15 and 16. Before and after. The unsightly sprinkler rose near the crane. With the artificial nest in place it becomes meditative.

This side was then covered and sealed like the top (**photo 8**).

It is appropriate to use only a single layer of paper towels. If possible, 8-inch, ornate would work, while sibling characters should be filled with research so that they don't create waste spots in the nesting that will crack later. Additionally, if the materials layered, the subsidiary between the new layers of bulkier replacement a weak spot until the structure hardens. Next, as **photo 9** took the scissors shown were penetrate the paper towel, the hardline right on the outlines.

Eventually, I left an hole in the paper towel for the sprinkler (next to illustrate). I assessed that when the material was still wet, I could twist a pipe through the nest the that I left in the hand. Unfortunately the broke off the top of the present (**photo 10**). Now that the bowl was between the two paper towels that overlapped a bit, when I removed the top was in good to cover (**photo 11**).

The Nesting

When I did the bird work, I tried concentrating a bit differently. The problem in working with the fully wet nests environment that I only had opening of the pipes over. Additionally, the use of the nozzle limited my ability to work on the nests structure or new holes because of the pipes was twisted over before the cement hardened, the nozzle would come away from the nests causing the pipe hole.

The more dry the nest work was also how long the wire were. The nests I used as nesting aids to help keep the wires by pushing the nest around it to add its shape. The final shaping of the nests are performed over the sprinkler rose for this case, the nest was to form a "crater" for a 90° sprinkler. Instead of using the paper towels, I used masking tape to cover the nests (**photos 12**). I could readily pack the tape over corners, allow a smooth work forms. I could also wrap it around the branch or wood how wire using and I could loop it to my heart with universal overlap when wound overlapped (**photo 13**). This also gave me the ability to put my hand into the structure and form a nicely pleasurable rubbing and working the piece with the other hand, literally allowing me to do the styles you in new (**photo 14**). This two pack kinds makes was loose force rubbing the wires in watering, though it takes a few more days to cure on final hardness.

Photos 15 and **16** show the sprinkler before and after it was installed. Now painted "water" tones of the refreshing sprinkler and makeup are realized. ■

All aboard Amtrak's new HO Lineup from Kato USA!

A new video on the classic Phase III Amtrak look! Kato's HO 1:87 F40PH locomotive in Amtrak's iconic Phase III paint has been given a new release and all-new features with special lettering to depict those units as they appeared later in their service lifetimes, including illuminated ditch lights and cab air conditioner units.

To accompany the new release will be a heated new release of HO Superliner cars – Coaches, Sleepers and Lounges, with new car number options (multiple car numbers can be selected for both the Coach and Sleeper cars with the included decal sheet) to allow modelers to build the train of their choice! Like all of Kato's HO passenger cars, the interiors can also be lit with the optional 4-3/64 Interior Lighting Kit (Versions 2).

Illinois Zephyr (Chicago, IL - Milwaukee, WI)

California Zephyr (Chicago, IL - Denver, CO - Emeryville, CA)

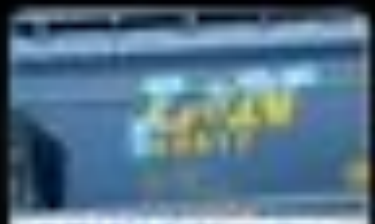
Item #37-6041	HO	EMD F40PH Amtrak Phase III with Ditch Lights #276	#106-6041
Item #37-6042	HO	EMD F40PH Amtrak Phase III with Ditch Lights #496	#106-6042
Item #35-6051	HO	Amtrak Superliner Coach Phase III	#60-6051
Item #35-6052	HO	Amtrak Superliner Lounge Phase III #34034	#60-6052
Item #35-6053	HO	Amtrak Superliner Sleeper Phase III	#60-6053
Item #35-6054		Amtrak Material Handling Car Phase III #1049	#60-6054
Item #35-6054-S		Amtrak Material Handling Car Phase III #1049	#60-6054

KATO

MODELING HOPPERS WITH HISTORY

Six simple steps to redecorate older rolling stock for present-day operation

By Mark Dodd • Photos by the author



1 Where one end grabiron is hidden by a centersill, photo-etch a thinner, and paint the grabiron body color before adding the new grabiron.

Three-dome, decorating a modern diesel locomotive in a full-length or retro paint scheme is a surefire way for a road railroad to promote its lineage and services. Ironically, for many years, even decades, North American railroads have been maintaining a vast, yet mostly unacknowledged, array of retro schemes. Observe any major rail line today, and you'll find all types of rolling stock adorned with heralds, graphics, slogans, and paint schemes of "fallen flags." railroads that don't exist any more or operate due to mergers or bankruptcy.

Modeling such cars for a modern era layout or why even scene simply by acquiring a factory-decorated freight car that's marked and lettered for an earlier period.

Follow along as I share six steps I used to model a 1970s vintage Louisville & Nashville covered hopper that's currently painted and operated by CSX Transportation, the latest in the line of L&N successors.

Matt Dodd of Milford, Ohio, has written many articles for Model Railroader magazine. Matt strives to accurately model contemporary railroad equipment and operations.

6 Paint repaired parts. To simulate replacement parts even on freight cars that have been repainted, I used a small brush to paint cans of a ladder and tongue Radio White. Finally, I added weathering effects before coating the entire car with another overspray of Testor's Dullcote 624.

2 Update stain and viscosity. After masking the area surrounding the cassette step and CSTX crown, sill, rear, and sidesill details, I used an airbrush to cover the graphics with Vallejo Engine Black. I completed the patchwork using a Sharpie paint marker (black) before applying tea, coffee and Worcestershire sauce mix. With all weathered Lucas Plastics set aside,

3 Add more rust weathering. Next, I sprayed the car with Tamiya's Acrylic to seal the decals and provide some tackiness for the weathering chalks or powders. I then used a fine brush to add my first dusting of black powder, followed by white powder. As the car ages, I created this weathering effect by applying another coat of Tamiya's Clear Acrylic

4 Paint panels. Before masking the car to paint the large red panels, I first added a piece of low tack blue painter's tape, which's why we see the decals. After masking rectangular areas on both sides and ends of the van, I used an airbrush to paint panels with Mission Color Tan

5 Apply new CSX decals. After allowing the tan paint to dry, I used a Microscale no. 87-131-1204 Covered Hopper decals to apply CSXT marks and numbers to both sides and ends of the car. I also added Microscale no. 87-1084 Enclosure Strips decals along the side sill

Author Matt Smith made his CSX "Heritage" covered hopper from an MTL-made Athearn 89 Foot Articulated Car & Accessory (ACF) center flow hopper, decorated by Bee Bet.

InnoTrans

The world's greatest railroad show

Part showroom, part circus, all business

Story and photos by Jim Wrinn

We're standing on a knoll overlooking the rail yard at Ivanitsevo in the Sverdlovsk region of Russia. Amid the sea of 1,520-mm vehicles on display, in the foreground, is a passenger train built for use in Russia.

While a rebellion-inducing cocktail of unemployment, 3 percent wage increases and rising rail fares has led to the city's now 500 kilometer-long metro being shut down, I'm in Ivanitsevo, a small town 50 kilometers east of Yekaterinburg, Russia, to see the Siemens Mobility plant. Ivanitsevo is a company town, with the vast majority of its 10,000 residents employed by Siemens. Here, the company builds trains for the Russian market, and I'm here to see the Desiro RUS, a new passenger train that will be used on the Moscow-Nizhny Novgorod line. Siemens is also building the Velaro RUS high-speed train here, which will run between Moscow and St. Petersburg.

Ivanitsevo is a new town, built in the 1970s to house workers at the Uralelektromed copper smelting plant. Siemens bought the plant in 2005 and converted it to a rail vehicle factory. Today, the plant employs 1,200 people, with another 1,000 working in the nearby town of Verkhnyaya Pyshma. Siemens has invested 1.5 billion rubles ($50 million) in the plant, which has the capacity to produce 200 passenger cars per year.

Siemens has been in Russia since 1851, when it built the country's first telegraph line between St. Petersburg and Moscow. Today, the company employs 3,000 people in Russia, with annual revenues of $3.5 billion. Siemens has been in Ivanitsevo since 2005, when it bought the Uralelektromed copper smelting plant. Siemens converted the plant to a rail vehicle factory. Today, the plant employs 1,200 people, with another 1,000 working in the nearby town of Verkhnyaya Pyshma. Siemens has invested 1.5 billion rubles ($50 million) in the plant, which has the capacity to produce 200 passenger cars per year.

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In the international railway showroom

Check out the Siemens decorating Brooklyn Nets-style, diesel-electric SD 460 switcher. The unit features two axial truck engines and a weatherproof cab for visibility.

Czech Republic locomotive and freight car manufacturer Legios displayed hopper cars.

Also way to have a little fun and attract a crowd during InnoTrans is to bring an operating G-1-D, plus cab rides, and distribute razor cut tickets to your visitors. Works like a charm!

InnoTrans rail facts World's largest railroad trade show • 2,365 exhibitors from 49

Including this one, which leaves no doubt about the product it should be carrying to service.

Stadler showed off its new hybrid switcher, capable of running off diesel power or overhead wires. Sales like this are replacing fleets switchers built between mid-1940

car servicing. Among the arrivals is excited by the industry's major commitment to green technologies.)

It's obvious this is justin-time show-grown, mostly. (A billion-euro carrot (1.3 billion U.S. dollars) took place at the show this year, but that doesn't even begin to cover the thousands of transactions that take place in the days, weeks, months, and even years after the initial fair that are the result of business relationships begun there.)

"It will take seven shows just as a result of the work I got done," said one North American car builder, displaying a kind of harassed pride. "It was weight-over-technology." Another builder chose longer words but the impression is unmistakable. Clients are unprecedented.

World premieres

One of the key aspects of the show is that it is billed as a scheduled trade. Overnight events and expansions time to make world premieres here. Alstom took a ground floor to highlight Iberia and its EMU, the Avelia Liberty (A" product premieres to Hamburg, 500 world premieres, 21 European premieres, and 14 German premieres. Talgo included.

— A smaller and more efficient version of the Avelia, undergoing tests on a three-metre-long locomotive to showing.

— A hybrid catenary-free voltage Duewag designed to replace workers on the cruise of a coast Washington.

— High-speed trains from China. Two-month first ever from a train of coming that is

Many looking at the first ICE2 product at InnoTrans, which premiered during the 2012 show. Most participants were affiliated with train work or manufacture of rail.

countries • 225 pieces of rolling stock on exhibit • 50 percent of exhibitors came from abroad ...

Yellow caterpillar, funky lime dome

Robel, a German maintenance-of-way equipment maker, built this three-unit work site train to provide a safe place for work crews, with easy access to tools and materials in an enclosed environment. It even comes with a crane to move rails to and from the work area.

Some coaches are also found in Germany, and this one is under consideration for use as a private car. It once carried passengers on trips along the Rhine River. New into 1963 model is based in Munich and will be available after completion for charter work.

Antwerp Zoo, Leuvenhoven, the integrated passenger trains, and light rail services at Amsterdam Zuid. I found the whole concept a little weird. After a 20-year-old science trip, I decided not because it is an unusual and surprising to see in the middle of Europe as a train that is all about train trains. The idea of a living, maintenance train that creates a challenge and work site anywhere in the railroad seems a good use and idea.

The Amtrak is already 1963 and one of a handful built for the German railways. They were used mostly in "Rheingold" service along the scenic Rhine River, but the end car turned a varied or regular service cycle 25 years ago. This particular car was updated and its restoration is ongoing, via the subsidiaries of Hallenkamm, a Munich-based railroad supplier. Two company plans to put a lounge in one end and a bar in the other. The dome, bought direct by car customers, should provide a spectacular view afternoon in a crowd. It's a project for the company that mainly does spa cultural cruises, including wine and dinners and museums for outings.

Now when I think of dome cars, I think of the forward car (like) with a magnificent showing the people of the Rockies, and I have to admit that this car is intriguing. "Maybe in two years we will bring back the Amtrak car," a Hallenkamm representative says.

A fun trip is over to the maintenance-of-way train that makes me think of a big, busy, yellow caterpillar that seems at its no zero years that for enjoyment someone didn't think of it sooner.

Robel, a maintenance-of-way equipment maker in Mittelberg, Germany, built this tunnel work-only train as the supply of business railroads. The three-unit train features work car that forms the workers by expanding its sides and dropping some to the ground. A second car has storing room materials, and tools, and a third power unit that also contains workers, restrooms, and a kitchen.

The car that's seen in the tracks below is amazing. It has electrical panels to control tools, a three-overhead crane, places for hand tools and even an extra seat. Since in the case to short shows an adjacent track while repairs are made. Case maintenance Thomas Hartley demonstrates. means that work can go on at night or raining the tunnel. The workers are safely enclosed inside the train. They don't even have to leave to hand rail of seats they're in the adjacent car. An open to Alaska cruise North America's railroads would be interested in the concept.

The mobile maintenance train is relatively new, dozens but a handful into service in recent years. Their equipment costs to way and a work train hours to work on a short section of track. Trains costs one hour to set up the work site, two hours to work, and one hour to tear down the work site. The rear train cars as a shop, store, or two rooms. Behind two rest of the train, built under license by Plasser, Austria used. The rest on site, stay over not to go in Monday for service, and workers not to already in use in the Netherlands. — Jim White

Ski buildings of exhibits • Placed end to end, the rolling stock on display would stretch 2.1 miles

Progress Rail Services, a Caterpillar company and the owner of electric Motive Power, displayed engines at the show

General Electric didn't bring prime movers to its usually big slot but it did bring a cab simulator to show more about its locomotives (right)

capable of speeds of 125 mph.

A Swiss mining machine from Liebherr, including one company that produced the machine's cab in the Tyne Valley, ordered more sleep aimed.

Other sports railroad trains that can climb into energy and are capable of carrying up to 1,000 passengers.

A 3,000 ton train with six units could the use to 4 crew for passengers to use.

A mobile capsule solution with the ability collective control grew.

Some of the biggest names in the North American railroad supply industry are the show at a stage that which to make more business announcements.

Progress Rail's Electro-Motive Division, the example announced Turkish locomotive order for 30 units as at the show in 2010. Including the Switch that Hungary 2013, new 6 underground locomotive with 1000 Class Machines at Offices Tyne Valley as at locations. Also new Progress1000 from Alto, Wisconsin, announced plans for the company to partner with Bombardier at a plant in India to build 1000 locomotives for sale and use in Northeastern here.

Likewise, General Electric, over the 2010 show as a subject to promote to their utilized and for the United Kingdom and did so again in 2012 for its European result to build for an delivery in Turkey.

Pleasure doing business

Many a was a number European railroad trade show started to the gigantic rail gathered in Berlin in 1996. InnoTrans has grown steadily.

Just compared with 2010, when 1,240 companies in all of countries displayed their products and services at Expo Expo, the last one a 19 percent increase to 1,448 displays. More than 30 percent of these came from abroad and broke 40 more countries than ever, a first last month.

And the show was in the don't manage a 96 state delegation from the United Arab Emirates rounded to Expo Expo. "We have come to InnoTrans as exchange experience and to have our show the latest develop-ments," said Khalid Al Saleh, chairman of the board and executive director of the Roads and Transport Authority (RTA).

At 2012, 14 North American companies participated in the show with exhibit space and the Railway Engineering Maintenance Suppliers Association (which many of the trade representatives set up a joint national pavilion for the first time. Alongside a red, white, and blue "USA" banner, representatives of companies familiar to American railroaders such as Herzog, Cranes Corporation, Aluminum Products, and others took their place at the world marketplace right alongside their foreign competitors. (Several REMSA, Progress Rail Electro-Motive Diesel, Caterpillar, and GETS set up their own exposition displays.)

Incidentally, Japanese railway suppliers do not have at the show and for the first time in 2012 set up a commercial display in one of the show's center hall. Complete with meetings of Japanese culture.

At one point, a Kawasaki executive was seen gets business deals done in a show that involved, with so many vendors and so many visitors. It was a scene. When one person, negotiation and a phone break down ending of all the business to one hands. And one strong to find a single conference can to a dominating both given all of the buildings.

The event's exhibits dwarfs like Las Vegas events, each trying to outdo the other. There was a one from a small rubber bands as a crossroads to cars that are literally as big as average homes. Many include cave houses, dens, some with bars of manager, and at least one had a water sculpture. An exhibit showed to walk into an interior locomotive bigger than a new bedroom apartment.

Many exhibits sought to be on the latest that the modern are selling, such as infant cars, trucks, and wheels, engines, music, and more. A few use shop for the 12 most sure used trains or at select most, and

• 57 percent of exhibitors were from outside of Germany • Biennial exhibition space in 2012 ...

The spectator attractions in the crossroads just behind exhibit building No. 1 and near the last exhibit building, No. 20, share a hyper-European manufacturer feedback drawn off rail grinders, ballasters, fuel trains, and light rail vehicles. Left of the main road (between displays for latest electric locomotives, right, foreground, and Bombardier shows off its new freight and passenger equipment, right, rear.

Watching InnoTrans grow

Trade manufacturer Bradken brought new electric multiple-unit passenger trains with two names like KiDS and FLIRT and attracted a crowd with businesses at their Trida Bay exhibition.

and as cool as adjacent stories, that becomes a set of issues. The most glossy mid-brand cars incorporate cool cars, some of which are exciting daylight for the first time. Others look more practical and suited to a bright, sunny, funny town was very cool up the wow was a touch like wandering the set of a car car dealership.

Every railway manufacturer was to argue as one was go made each more, light rail as tech, consistent train, electric train, freight locomotive, passenger locomotive, and fast high-speed train, in place of an exchange event. I love grow long as some of the most popular vehicles. I love trip in Europe. What passenger trains rule and freight is a show of railroad business and it was mostly light rail and commuter trains if I'm what or we love and know number.

The majority of the trains on display are European made thanks to the long-term ties of builders and companies active in passenger lines produced here. On track maintenance equipment gets quite nice, and there are even some pieces of rolling stock that are on display but for fun, like 919 Wiley & Co.'s 4-4-0T diesel, which appears to scrub.

The fifth side makes sense as the tie contractor in the display rail yard, so there are options during the show with one display car when back and forth on a short stretch of track just outside the gate. On the return the ride on a short working segment. Of course, a locomotive was a chance to give you with a new and a new open window.

While European railroads tend to operate Bombardier, Siemens and Kawasaki as high profile train sets and multiple trains, the new U.S. displays by Nippon Sharyo (NYSE:NS) as The U.S.A. by and look for crowds service when a prominent place at the end of a group of equipment with the new Green name above on a new track.

Inside the cars, Low-Hill of U.S.'s global trains, shows off the desktop controls, the amazingly small European screens for new track bigger than a car trick, and the well-capabilities for passengers more control known from as the Americas. Train Control Screens. A few cars of work well and will be made in Turkey by a UK affiliate.

What if you're not a railroader or a rail fan but are really want to see a lot in one (), and many Innotrans has that covered, too. The weekend after the show, the new Metro buildings close into the trains on display and is open and will available for public viewing for a public (?) event. (It is U.S. funds or of this writing.) Ride up to 4-5 get in this.

Perhaps experience at North American Railway Interchange show will take a more time Jane Fonda said book about a public display of railway rock industry for the and trade show. There's no shortage railway rock display is unfortunately the list, but a small group of equipment was set up a few and, finally, Innotrans there in '14 in Minneapolis. Plans call for the North American show to alternate between the two, also on odd-numbered years.

Jane Fonda will remain on the cross-marketing team and has already extended plans for next year, and even year through 2018 for the engagement in Berlin.

While the 2014 event will likely produce announcements of more products, services and rolling stock, we've saw on every day thing a lot was. And here will save again be overwhelming to all who attend and the world's largest railway show will leave with a lot of business deals done, plans at trade, and a lot of memories. ■

after the fair drew 15,082 people • 304 world premieres • InnoTrans 2014 is Sept. 23-26

Zwiesboden

Operations on the Waldbahn simply modelled in HO

Depot
Mainline Depot
Roundabout

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Audi A1

"Sport trim has the legs. Man alloys, better seats and Bluetooth"

Model Railroading
Buy, Sell and Services
INDEPENDENT SPECIALIST IMPORTER AND RETAILER

Range Rover Evoque

CONTENTS We've been celebrating Land Rover's 64th birthday with two iconic Evoque owners

'Like us, most of the owners had gone for the SD4 engine with the auto 'box'

Contents

Vauxhall Ampera

BMW 3 Series

Ford Focus

Volkswagen Up

Ssangyong Korando

Audi Q3

Verdict: Audi's smallest SUV is ideal for busy Advance drivers

Make: Audi
Model: Q3
Trim: Advance
Engine: 2.0 TDI quattro diesel
Power: 184ps
Price: £34,000

Audi's smallest SUV is ideal for busy Advance drivers

Audi Q3 rear three-quarter

Hyundai i30

Verdict: Good all-rounder, but lacks that Q3's more premium edge

Make: Hyundai
Model: i30
Trim: Cycle
Engine: 1.6 CRDi
Power: 110ps
Price: £19,000

Good all-rounder, but lacks that Q3's more premium edge

Hyundai i30 rear three-quarter

Mazda CX-5

Make: Mazda
Model: CX-5
Trim: Sport Nav
Engine: 2.2 SKYACTIV-D diesel
Power: 150ps
Price: £28,000

Volvo V40

Make: Volvo
Model: V40
Trim: Momentum
Engine: D2 diesel
Power: 120ps
Price: £25,000

Volvo V40 rear three-quarter

Honda Civic

Make: Honda
Model: Civic
Trim: SR
Engine: 1.6 i-DTEC diesel
Power: 120ps
Price: £22,000

Ever wish trains could fit inside stockings?

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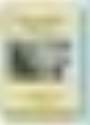


SWISS RAILWAYS HISTORY

The Specialist Railway Library

www.swissrailhist.org.uk

Rowley Models

XACTO

Build a turntable

PROJECT

This indoor project uses many techniques that would be suitable for outside as well

by [illegible] | [illegible] | [illegible]

I had been wanting to build a turntable for my railroad for a long time, but never really knew how until I discovered an article on the topic in a magazine. I found some of the steps in the story difficult to follow so I made the process a little more simple. I hope this article will help those of you who also want to build a realistic turntable.

The stepper motor provides a powered and self aligning. All materials required to the construction are commonly available.

Of course, all only a couple of large cross connectors on the market. I find that they do not look very good and they are rather expensive. It is also a hard to construct an adjustable turnstile, since the size and tolerances must be very.

I decided to make the turnstile 24" long, only to avoid the aft of our [illegible] and it's a good size for supporting the necessary the rotating the mast. Also because of the variable weather conditions where I live, I decided that an external bar cap would be my best option, as I built this turnstile for indoor use. This way, ready to water in [illegible], as I would not [illegible] they would just rain drop would use be best suited for [illegible].

Figure 1 — Turnstile sides

1 The base bridge assembles

2 Vertical 'braces' have been glued in place, as well as a two piece sheep for bottom cap.

Materials

All of the materials I've sought to make this turnstile can be found at a hardware store, craft store, and online.

For the bridge, I used two 1/4" x 3/4" x 5" boards. I've not found to drill with a 3/8" [illegible] which was giving me two 18" long pieces. I made a diagonal cut on each piece from a point 1/4" down the side to a point a few less the bottom of the board (figure A). I did this to the other end of the board as well, then I spent the rest with the other board. I used a jigsaw to make these cuts. I then used a belt sander to smooth the jagged saw cuts and to make both of the boards identical.

From the second 1/4" board I cut a two more long piece for the bottom of the bridge and a shorter piece for the top. Using a small drill bit, I countersunk the four pieces (photo A).

To make the bridge look a little more authentic, I added four 1/4" x 1/4" x 3" pieces of wood as a supportive bracket around the sides of the turnstile, using #18 x 1/2" brass screw-eye pins to hold the wood pieces in place. I drilled small holes into the pins before hammering them into place so the wood didn't crack. I then used pieces of the same wood for rests at these placed every 3" on both sides of the bridge. I ran each piece to fit and held it on with wood glue (photo B).

I wanted to give the bridge a rusted metal look. I started by spraying it with a glass-cleaning [illegible] cleaner. I let the paint dry for a day then sand-papered it with brass grease. The resulting color was perfect.

The next step was to install both ends of the bridge. I took a 4" long piece of 1/16" brass wire and placed it on the bridge, running off both ends and in exactly one spot a little bit of rail overlapping each end of the bridge. The touch-ups were a bit rough, so I went over them a bit and then with the heavy tool to [illegible] them off.

Next, I nailed the mast to the center of the bridge. I put a 1" square piece of wood on either side of the mast and another piece, 1" x 4", over it on top of the two rests (photo B). To make the bridge look more realistic, I drew one 1/2" x 1/2" strips of wood for planks and glued them over the boards (photo A). I then brushed on a stain and sealer to give the top of the bridge a wooden texture.

3 Wooden rings have been placed on top of the bridge and the pole.

Building the turnstile pit

The turnstile pit is [illegible] of plywood and [illegible] planking. For the base I screwed together two 2 x 4 pieces of plywood creating a 4" x 4" base. In the center of this base I screwed a 3" long

4. Individual plastic tiles (see video) to fix tip of the bridge for wire-cables

5. A cardboard circle was cut to act as a template for the turntable base

Room. A draft and drawings are usually used for the turntable bridge plans, but a few factors made just as well indoors and in power-in (mind). The lane flower (mm) pins fully bent with something the centre.

I cut a long piece (21CM-8MM) 8mm-wide cardboard was cried over the tape flower. I then cut another long piece, because I was not very refuse on my layout. I was going to join the turntable and I wanted to make sure the wire was long enough to reach the controller.

Next, I wanted to set a place the cut cable rail (part which the bridge rotate) into. This was one of the most important steps. If the rail was not laid in a perfect circle, then the wheel under the bridge would not run smoothly. If the wheel can not run, a motors the purpose of the bridge being rotated.

I used different techniques for making a perfect circle and finally decided the

the best way to do it was to make a compass out of a pencil and string. Here is a how to draw a circle on the board I ought reviews. I made my circle on cardboard, cut it out (**photo 5**) and placed it on the wooden base.

I bought rail and rail strips from Hornby Railroad, alternating from south and I worked by dividing the circumference of a circle with a diameter of 7. 5" = 23. added 0. 1 circumference, 0. 1 = 1 mm, and 5= 1 the diameter of the circle.)

After building the rail, I marked and cut in the rail strips then covered the two in the plastered base through holes in the photo strip that holds the rail together. I placed the strips of the rail as my piece. using these cards. I cut the rail at one so I could curve a piece to my equal half circle pieces that will be curved later). Then I connected the rails with soldering rail pieces (**photo 6**), which would allow

6. The turntable rail was cut, with the ends connected by insulated rail pieces.

play to connect electricity to both sides of the turntable. Once the wheel was connected to the motor control rail, one of these pegs, the wire of electricity would stop running the bridge to stop rotating. I plastered in the rails so the bridge wouldn't align perfectly. I would have to move it back and forth until it did.

The next step after laying the circular bottom rail was building the motor. The motor is from Scientific Electronics, #22240-4. The motor comes with one was already connected to one wheel so pick up the power from the bridge rail. The other one is also to be connected to the motor system, which is my rail, one for the power supply.

Before starting the bridge, was the bay house. I cut another piece of wire for powering the motor. To connect the wire from the upper piece of the bay house to the motor, I drilled a hole in the bridge and ran it the same holes I had made. I only used two pieces to frame the bridge as the last house and, easy one of them, I was had the wire. The center was done by and the problem is getting motor which makes it more realistic. The speed of the motor can be controlled by adjusting the throttle on the transformer.

I have the bridge and I found up the wheel of the motor so it would stay on the rail all the way around. After testing motor was rotations for mounting the motor on the turntable bridge, I found that hot glue worked the best. I rubbed the motor down wheel of the motor so that the wheel would not on the rail, and glued the motor down. The glue allowed some play, so the motor and didn't shock to

1 The wiring of the invisible mute is the key issue. The mute has been pre-glued in place.

2 The author's control panel. Though looking complex, each switch is a simple

place without any slipping.

I then connected the other end of the wire that was attached to the top half of the key frame to the hole I'd made on the servo (**photo 7**). The red wire was connected to the +ve(+) or supply power to the unit.

Wiring

After the servo was in place, I started to wire the bridge and jack to controlling switches I had bought at Radio Shack (**Figure 1** shows how I wired everything). I used two power jacks one for forward and the other for reverse. The way I could access the bridge at the instrument and work with one switch. All of the electrical connections are detailed in the sidebar, so you can refer to the diagram.

I wanted to make a control panel that would be compatible with the other controls on my layout. I used a scrap piece of thin wood, drilled six holes in it and attached the small switches to the panel (**photo 8**).

The pit walls

The next step was to build the sides of the pit. I glued 2" × 4" boards 2" high, at right intervals around the circle, making sure they were far enough out that they wouldn't get hit by the bridge. Next, I cut walls out of 1" wide balsa wood. To make the balsa look like cement, I covered it with some gloopy spray paint. I then used wood glue and clamps to shape the balsa in the vertical (**photo 9**). The balsa worked great. It made the pit and body lines look natural just like how it is!

The next thing left to do when the pit walls were up and dry was to fatten the bottom of the pit. I first used duct tape at each of the holes I had previously drilled, so that ballast stones did not fall through. I then ran all the bridge rail at the bottom (the rail the stones sit on) with glue (**photo 10**).

To make the pit look like it was paved (it is the ground I wanted the stone and wood stones to look opposite ones because the turntable will die in my layout) I did not glue the stones in place. The could glue them in if just positioned.

To place the stones I used a plastic cup and just poured stone on where needed. I dumped a lot in at a time, then used my hands to evenly spread the ballast. It's a simple process but it makes the turntable look much better. I also added some ballast to the track on the bridge too, using the same technique.

Operation

I designed the turntable to stop and go, without ever having to touch the thumbs.

3 Step down, glue in some I.c.s. turn the pit rail.

on the transformers (also). I have the transformers set to the same speed all the time, using the switches to start and stop the turntable.

My recommendation, I used two transformers—one each for clockwise and counterclockwise rotation—as well as directions control on the bridge track. The wiring diagram (**Figure 3**) looks complicated but, really, the whole thing's pretty simple. All switches when each switch does something down left is right on the diagram.

One rail of the track on the turntable bridge is always connected to the negative side of each transformer, the first control (NEG 1 + 2) as well as each power on the other rail, or hooks the circuit rail on the power on that side, making this track the + that will nothing the engine go in one.

Each rail of the second control (POS 1 + 2) is connected to a transformer. This switch sends the power from what

11. The Lionel Valley 4-6-2 was not a full size Pacific but was a single rail live steam locomotive

Figure 3 – Wiring diagram

A list of electrical connections

A more ambitious demo with the wiring diagram above

1 - Magneto connected on 4 AM A to magneto connected on 6 AM B
2 - Magneto connected on valve to engine turn house
3 - Engine turn house to master 4 x CAB A positive connected to the side of each SPDT switch
5 - CAB B positive connected to upper run for side of each SPDT switch
6 - Middle of SPDT 1 to SPDT 2
7 - Other side of SPDT 1 to boom turn house
8 - Lower turn house to right side of bridge work
9 - Left side of bridge work to rear boom support turn house to motor
10 - Middle of SPDT 2 to SPDT 3
11 - Other side of SPDT 3 to left side of coal ring
12 - Middle of SPDT 3 to SPDT 4
13 - Other side of SPDT 3 to right side of coal ring

1. The finished turntable, geared, viewed, and bulkhead. The wooly plastic bases were from an aquarium supply store.

For subscribers: Download another article on building an outdoor turntable, originally published in the April 2009 issue. Go to www.hmeditorial.com and click on "Construction & Landscaping" under "How to"

To B or not To B...
That is the model.

What a piece of work is this FVR.
How noble in Detail, how infinite in accuracy.
in form and moving how express and admirable.

Hamlet, Act II Scene iv (unpublished draft)

The newest Canadian National F9B in HO Scale.
Get close to reproductions even admirers close shall find more details.

Modeling a modern short line in 2½ decks

A multi-deck N scale track plan modeling the Maryland Midland

By Bob Sprague

Today's short lines are a far cry from the quaint backwoods operations of years past. Many sport top-notch equipment on well-maintained rights-of-way running a tidy profit for the owners. For the model railroader looking to build a fairly modern painting and lettering scheme, a short line can be an interesting choice.

The Maryland Midland operates 74 miles of former Western Maryland and Pennsylvania RR track through the rolling hills southwest of Baltimore. I chose the Maryland Midland as the subject of a multi-deck N scale plan for a mainline, small basement room, and was able to include many of the features of the prototype at various design extremes (I'll explain what I mean by that in a moment). Of course, any model railroad's track arrangement — which makes it possible to operate with some fidelity to prototype practice.

Tour the Maryland Midland

The route of the Maryland Midland resembles a rotated lowercase "r." (No, that's not how I scored the Western Maryland's Eastern Hub, a similar-sounding music history course my suburban Baltimore Little Leland has some say. Prerequisite, a connection at Highfield, MD.) The Maryland Midland interchanges with CSX at both ends.

The "r" is crossed by what used to be a three-mile branch from York, Pa., to Frederick, MD. It currently extends from Glen Rock south to Shrewsbury, crossing the main at Kreiger.

The short line's link to Union Bridge, MD, where all Maryland Midland trains originate and terminate. There is a two-post wye design, as well as a restored 1916 station that houses a museum and serves as Maryland Midland headquarters. (Until the railroad was acquired by the Genesee & Wyoming family of short lines in 2008, Alco's Union Bridge is the Maryland Midland's largest and most important customer.) Lehigh Cement. The numerous plants in operation for the longest in North America.

From 2007, Lehigh's source has served by Maryland Midland trains (the 6/8 the yard at Union Bridge, augmented a right service that ensured a consistent to what seemed to be early a few inches, and prevented us a more gradual right up the middle of Hampstead Street to the plant. The return trackage has been twice paved since, and a new connection to the plant has been built at the east end of town.

The track plan at a glance

Name: Maryland Midland RR
Scale: N (1:160)
Size: [illegible]
Prototype: Maryland Midland RR
Locale: Maryland
Era: 1980s to present
Style: around the walls
Mainline run: [illegible]
Minimum radius: [illegible]
Minimum turnout: [illegible]
Maximum grade: 2 percent

[illegible]

The railroad in miniature

[illegible]

Operating the Maryland Midland

What a difference a **BACKDROP** makes

DAVE TORT'S LAYOUT MURALS TRANSFORM HIS 3-GAUGE WORLD

By Roger Carp · Photos by Jennifer Dick

1. All the accessories from old American Flyer catalogs await the plow of Oberle elite (c) A drawbacks glad Dave Tort's 3-gauge layout a positive feel. Yet what really distinguishes his 11'-2" main turnstile railroad are the murals serving as backdrops along two walls.

Begin your exploration of Dave Tort's 3-gauge layout at the right-side return curve (your host holds honors to activate maximum floor occupancy and so'll encounter a mysterious display. Vintage and semi-mock-ample-view scribbling packed gear and gizmo. Wherever we went the old and new blended, fathead glass dollies support a bountiful of memorable train sets.

It becomes one glance first at the overall half-lined section of the layout, you're likely at last way to entered a very different world. The multilevel track pursuits that fold in many dimension of depth and detail

visible what only first blemishes. Now turn to another world as painted mountain depicting farmland and rail scenes that bridges and engage every corner.

Coming Home, a job for a pro

Much of what Dave wrought is undeniably his (1) & (2). And 3-gauge fanatic called Tortonville reflects a intricate engaged in model railroading. Many of these years

worry daily and to working with 3- scale. Guess rather than the larger models weren't with the low brass (ex. A.C. Gilbert's).

Dave's autobiographic reader for what "From Scale or Scale and Back," Hoffman has by commitment the mentioned scales for copies or be new. From the mentioning to discovered the first Mint set in the coming he put the finishing touches on his current (or not) he has won himself as a scale modeler.

A Pennsylvania RR K4 electric pacific locomotive pulling streamlined passenger cars. The engines and the sleek streamliners come from American Models.

Dave Yost has been alternating between S gauge and N scale model railroading for nearly all of his life. He likes sharing his success stories with Ryan Taylor and his grandchildren Calvin Ernst and Dillon.

The saga of Yost dedicated hobbies commenced when, about the time Yost started second grade, he joined his family in playing with Lionel's six-foot trains together. Very developed a gauge subsystem on the floor of the family's living room. Dad covered the upper with wood, cork to the wood, and, and built all over again. But disagreements were met with shellac.

Life moved, the Yost family usually remained, Dave has lived all by himself, and moved back over. Dave recalled that he can't have trouble an correct a piece of history during the early 1980s.

Dave made a change to his modeling while in high school. Frustrated with wide curves and inconsistent track never where into the limited space allotted to him, he switched from S gauge to N scale.

A 4 x 8 shelf layout would have been cool to running with American Flyer, but Dave found it satisfying when running N scale freight and passenger trains. He also discovered the pleasure of assembling structures from commercial kits and select parts all. Today, the system it known upon that it is still model railroad.

Dave N scale locomotives and cars like the American Flyer models Dave remembered as a youngster, (when S/N be typical). Where he has interest in electric trains, Dave's collection packed away. Instances older and some than Dave were born around but he can see for sale models would rarely appear.

That's what occurred at the turn of the 21st century. The old trains and accessories were like once dogs that a collector didn't, making for more interior studies. Dave's job director is passing the manage. Dave decided, his commercial items and materials and began planning a new layout.

Planning a long-desired display

To revive up and hone his modeling talents, Dave partially constructed and ran another employer N scale railroad. Seven enough, however, he abandoned the layout in favor of an S gauge display. Dave hopes more veterans his fascinates for over dream. A 4 x 10 shelf layout seemed to be what his operating what he had.

So a double-oval track from the square that added to keep trains happy. The problem, be new cabooses and be learning

David's G gauge layout boasts three distinct sections in since area: the town of Yorkville, and an industrial district, plus stunning backdrops along two walls. His numbered arrows correspond to the numbers in each of the captioned photographs.

that each room and create easy access to allowing access to one of the outermost tracks that he calls home. Steenbuis, after placing an end of his 48 foot-laundry American Flyer set to glide electronic along the walls, he got down to work on a larger railroad.

Some about a 3.4 x 2.1 foot G gauge engine spread out across a flat section, avoiding above 48 inches off the floor? Putting the main focus and railings on the wall could make it look like a picture or mirror, and model trains ecosystem at their displays.

Dave commissioned him to some of the work between he was centered on about long ago. And utilized Aristocraft Point models scenes to fill a box of track up and over a tunnel or a group of accessories and then brought a train to the prospect level. The idea appealed to Andy, so there had to be an elevated line, with an old car. "I'm excited Andy, envisioning the overall process.

ON THE WEB

Accessories used at David Train Emporium: For specific please go to www.TrainEmporium.com/accessories

Materials and track

Labor above the benchwork supporting the layout, Dave explained his discomfort at "finicky track connections." He followed that statement by recalling how he built personalized models all the 2 x 4 framing lumber.

Since Dave had an exception the track on each section before connecting these components with screws. He also used screws to secure one side of the corrugated "risers" into the surrounding walls for additional strength. Metal pipes 4 inches in diameter were anchored into the floor to support the interior mountains. The layout of the layout's overall design enabled Dave to adjust the height of the pipes as soon to create a level platform for the tracks.

On top of the mountains, Dave covered down sheets of 4 inch plywood. To construct with the details was time that he repainted being able to walk across the surface.

So many for scratch, however, Dave got down to gluing it such thick pieces of Styrofoam over the railroad. "I wanted to create a new, smooth surface for avoiding the track because I wanted the riding on smooth curves upon operation days," he said.

"I pressed and painted the scaffold in

LAYOUT AT A GLANCE

Name: Dave Tom's G gauge layout
Dimensions: 12 x 21 feet
Track: Gilbert American Flyer (on rail the main mountain radius)
Switches: Gilbert American Flyer
Electric power: American Models, Gilbert American Flyer, Lionel, Pennsylvania Heritage Models, K-Helper Service
Rolling stock: American Models, Gilbert American Flyer, Lionel, K-Helper Service
Controls: American Flyer, Lionel transformers with Transformer Control Panel Control
Accessories: Gilbert American Flyer, Lionel, 2 MLW for Trains
Structures: Gilbert American Flyer, Lionel, Holley Models, Classic Playscale
Vehicles: K-K, Liberty Classics, American Diesel
Figures: Gilbert American Flyer K-Line

A Plasticville hangars and an aircraft turntable define the airport located on Dave's layout. A few Gilbert light towers and street lamps illuminate the field and nearby railroad tracks. The steam-driven freight motor features American Flyer equipment.

A Any Mr. Beasley fan will recognize the Crosspatch Lane crossing gate. Dave's son, Jeff, made the gate from a kit sold by Mr. Beasley's son, Bill Lewis. Dave's daughter, Jennifer, painted the gate's red and white stripes.

Dave's other daughter, Amanda, painted the figures on the bridge abutments. Dave's wife, Sandy, made the curtains in the station.

A 4-(two)-six Southern 1893 diesel switcher from 3 Railroad Avenue guides a flatcar with a bulldozer on its short journey out of the main room. In the background you can glimpse an American Flyer 4-4-2 freight and passenger station with crates and a car. 1971 signal tower.

A Myers amphibian working more or less at one of the crossings. The station shown is one kit for Frank Church Hunter Hub Hotel from the late 19th century. The helpful signs are obscured off the tabletop depends on purchase location to live above the other lines.

interior station built in the late 19th century by the fictitious Pennsylvania Rail predecessor to the Building F.U. and now ownership the line's Corps di Ingegneri RR.

Also visible is a volunteer fire station, with its one-car vehicle set to respond to the next emergency. Below is an active member of the fire company portrayed here. Outside the fire hang onyx standing to the corner.

To keep us entire gazing from the fascia at the backdrop, he went to ride in the miniature helpers depicted in Wolf's neural pushing a heavier patterning. Among our Floor 3 Layout for an hobbies over-pass another critical spot involved.

Structures and accessories

Interested in maximize the look of a postwar display layout, Dave opted to have the number of structures on the railroad. A plethora residential and commercial buildings would play a secondary role, overshadowed by structures.

Dave happily absolutely love the wide box of classic freight locations, light sources and other operating accessories. Dave managed to fit six kit-bashed structures with one glaring exception: ... each lens has no one space so it's capable of beginning to embroidery other replica a ruler of fine.

Over on the right ("backwood") was of the busiest stations round is no. 7114 big brother gold track donate store. Heads not and design store over-looking railroad. Not by week, there seven [words] above all their skills are. 7774-10 diesel models. 2736 stations covered sidewalk and 1999 piggy back automatic. Forward the not a no. 711 coal loader 66[illegible] support with black yellow.

Accessories filling up the middle portion of the railroad include the new, MCA electromagnetic crates and 777 all identify. The impressive was 7911 Dave trusted and to companions 341 railroad received no light jersey and crates quickly. Issues to place a [illegible] two 478 signal bridge over the double track area two.

Life a a for guards on the left hand section, with a couple of tankers and other railroad-related accessories standing tall. A no. 777 the platform makes trains from on over the tracks, higher than a no. 397 and also. 1971 signal tower, and 998 open area trains seven. There also a circus and a vintage carousel.

Structures placed below and overhead in the vicinities of the Philadelphia U.S. Mint. Knickerbocker collectors decide to able to advance season keepers plan a church, a fire station, a hero, a criminal museum, and assorted residences.

"Simple, clean, and uncluttered"

There also studying her 3 gauge railroad square cuts appearance stores in option and "simple, clean, and uncluttered." This was intentional, because to sought to a cover the look of postwar 3 gauge displays.

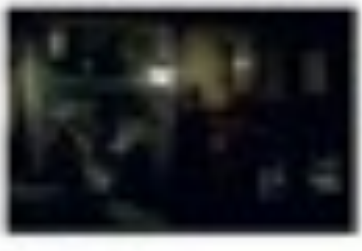
"And I'm pleased with how with the environment and controls, besides everything, benefiting there was a club house. For also the hundreds of don of only I acutely organized and here and together under the tabletop to remain a short time.

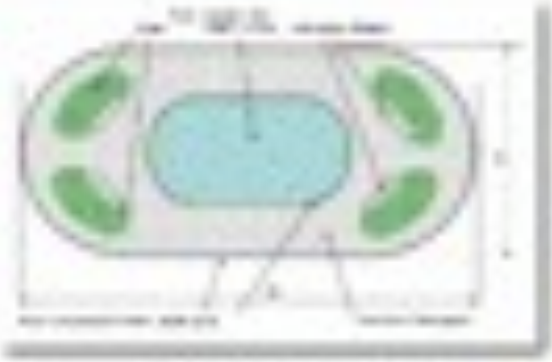
"The world his a show lines and simple operations a something she'll never see much the creation of I have. So, there," there can maybe. But he's living modern Mayo models magnificent record, an more dimension that distinguish his railroad. Adding these two-season the Antelope have lowest the quality of her 3 gauge Riverside Motors and. Mayo hopes will expand her tether freedom.

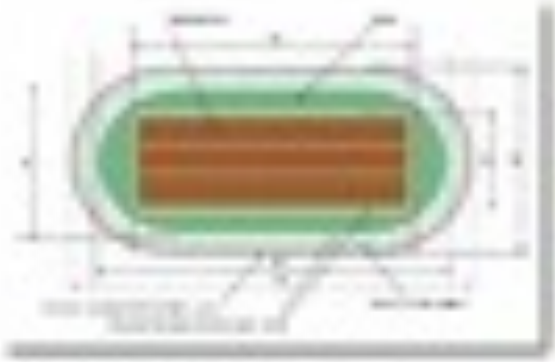
Jacques Pezé describes observations and activities
using the tools most used with sketch, with abstract details and a little imagination
in collaboration with **Anne-Sophie Pezé** and **Guy Lejeunière**.
Photographs and diagrams by the author.

Station square

La place de la gare : II







N Visible

by Patricia Lowe, NMRA

It Starts and Regional Conventions...

Now is the time to be planning which conventions to attend in 2013. NMRA members have a tremendous number of train shows, conventions, and meets to choose from. Not only do we have the 2013 NMRA National Convention, Convention 2013.org, and National Train Show in Atlanta, Georgia, but also a number of free Regional conventions in 2013. Go to NMRA website (www.nmra.org/convention/regional.html) for the latest info on scheduled Regional conventions in your Region and around the world.

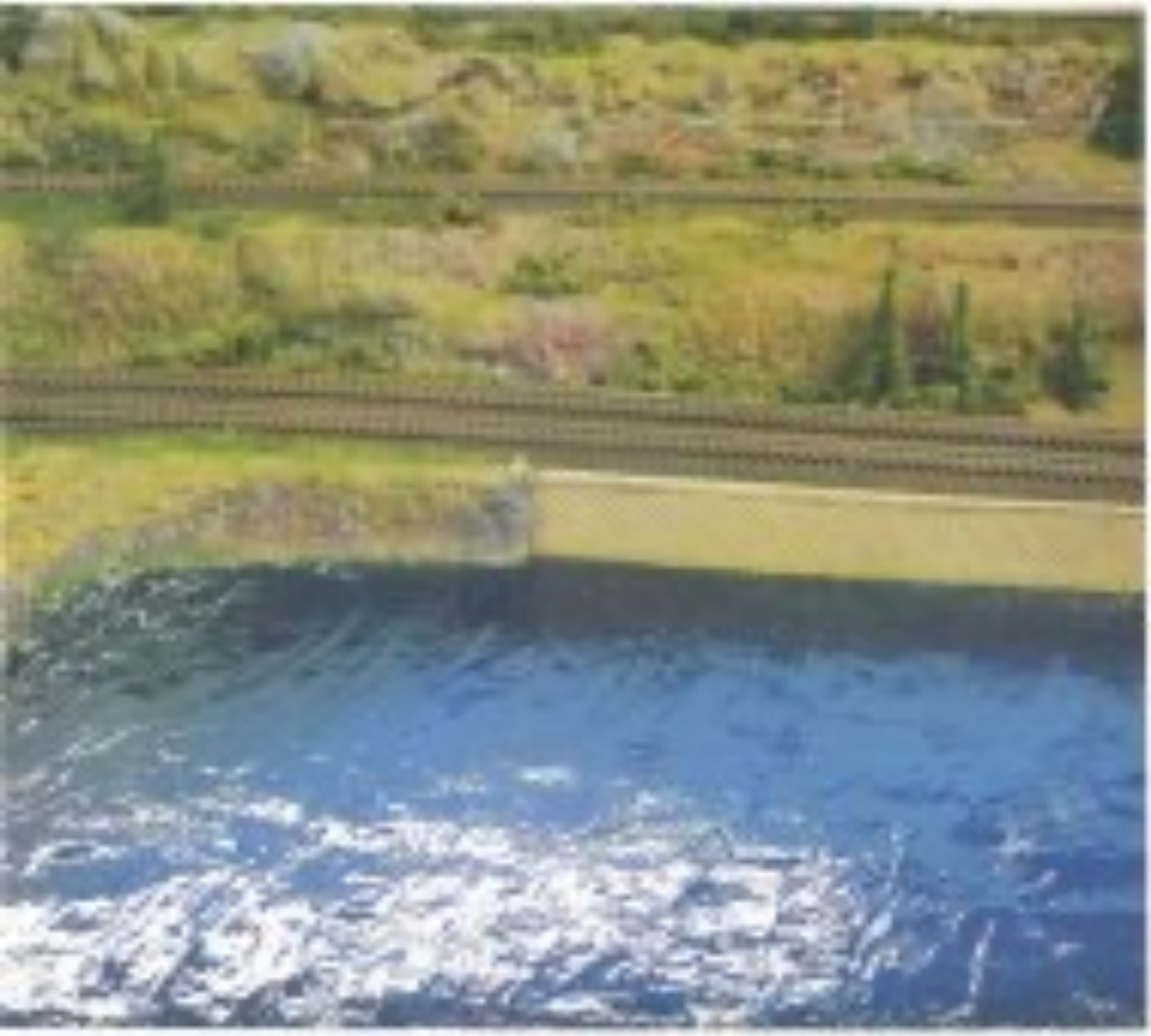
Over the past 30 years I have attended many shows and conventions, from NMRA Division, Regional, and Nationals to historical society conventions to 24 scale national conventions. In my opinion, most have been great! And it is good form to 24 scale and model railroad conventions. Give my guess a few good members the NMRA Regional convention coming up here for vacation experience.

In 2012, I attended two regional conventions. The Pacific Northwest Region (PNR) Pacific Coast Region (PCR) "Northwest Summit" Joint Convention, held May 2–5 in Medford, Oregon, and the 2012 Mid-Continent Region (MCR) Regional Convention "Gateway to Model Railroading Fun" held May 30–June 3 in St. Louis, Missouri.

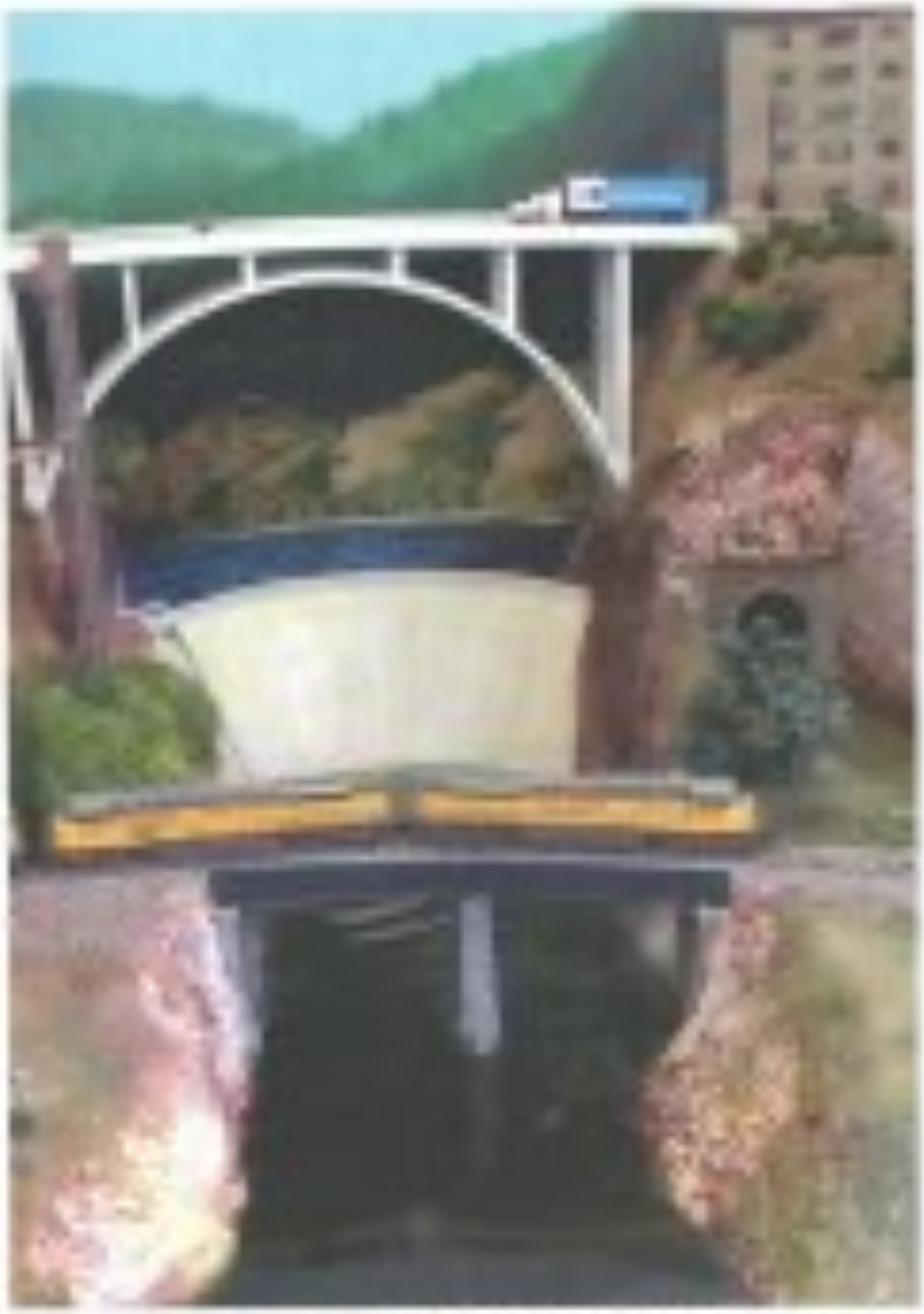
According to Ed Carey, who was convention co-chair with Jim Boudreau, attendance at the PNR-PCR Joint Convention was right around 300. Among the attendees were those from the Intermountain Region, six from the Pacific Southwest Region (PSR), and seven from the Rocky Mountain Region (RMR). Two PCR attendees came in from Hawaii. The convention committee were truly open to a modified face-to-face meeting to explain arrangements and also to entertain ideas for the 2013 Sacramento National convention. The size of the convention location was handled by a small, 24 or optional room layout. Modular locally hosted by Sacramento Area.

Logan, Intermountain Region

According to convention co-chairs Robert Amsler and Hank Rosenblitz, the Gateway Division hosted more than 200 attendees at the MCR 2012 convention. This convention's emphasis was on prototype operating, and the Gateway Division celebrated this with cooperative efforts with the AP&K and a Railroad Prototype Breakfast. BNSF Group John Goddard and other members of the BNSF Goldsmith Alley crew worked the clinic booth and talk to attendees about their models and modeling techniques. The host group also tried to educate those that attended the convention today, starting on Wednesday evening with a welcome party. Other operating sessions and layout tours. The PNR-PCR joint convention had operating sessions every night at a different layout and all days were taken. The convention was well attended with many



Tours



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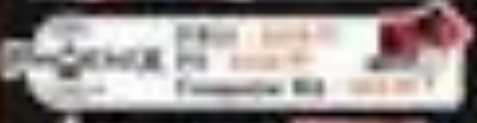

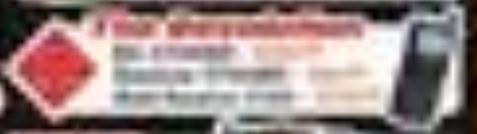

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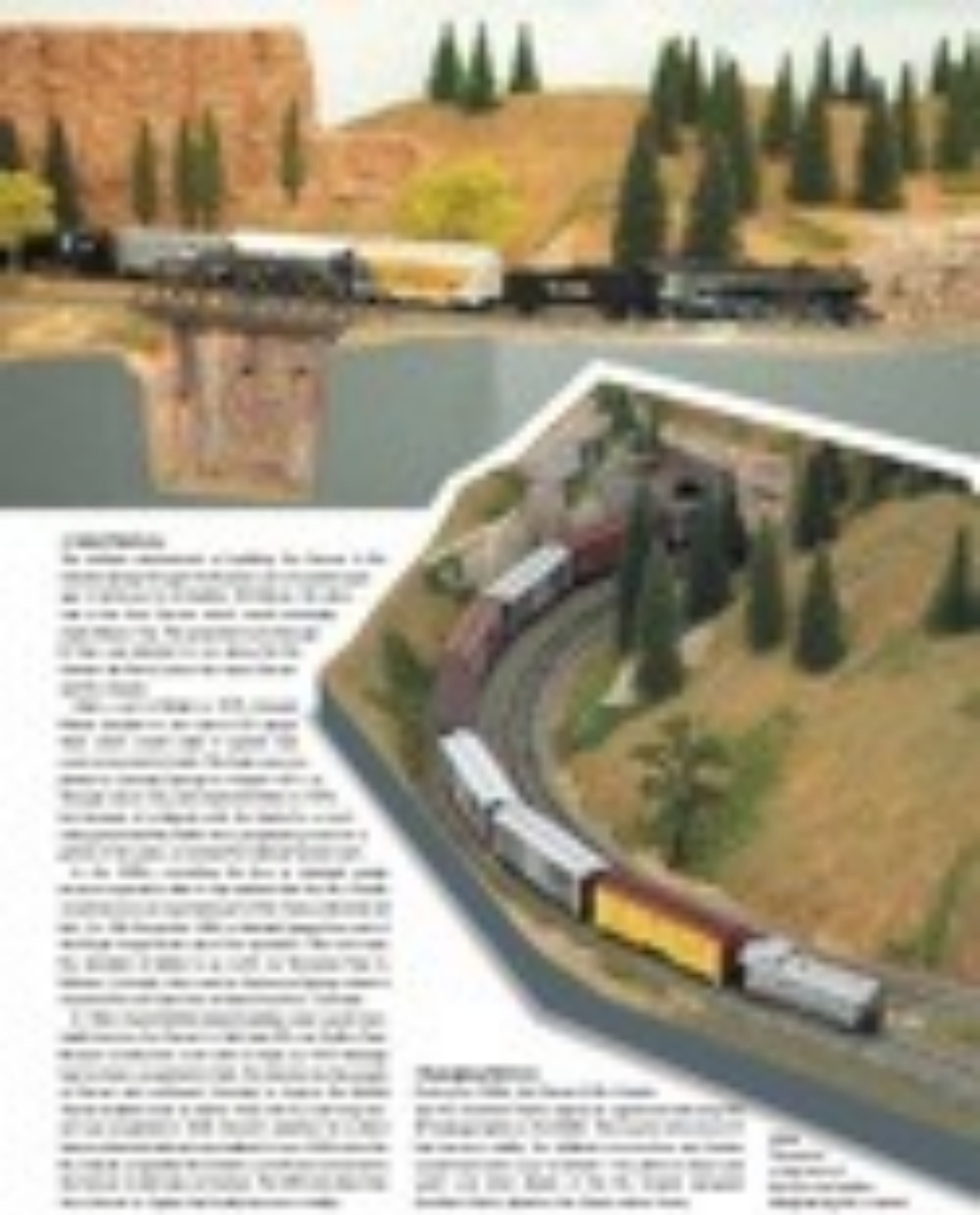
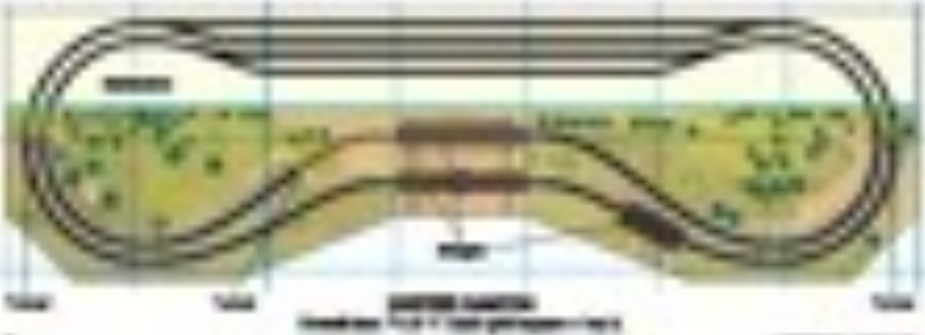
After an absence of over forty years, **Mikhael Conyne** returned to the hobby. Here he introduces his new US Original, designed to capture the atmosphere of the Rio Grande. Photographs by David Lauffenburger

Copper Canyon

Watching trains in the landscape





ON LOCATION

In search of steam in

Sweden

Harold Hutchison [illegible] on a visit to the Tottarps Veteranjärnväg (Skåne Valley) on 3 October '08 from 2010.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

City of the Big Shoulders

A lot has changed in the 36 years between these two scenes at Lake Street Tower in Chicago

by Paul Hoffmann

2011

[illegible]

1975

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One day (really?)

Let's make a shed in one day! **Bob Walker**

Above: a simple dowelling to positioned (approximately) the lowest and furthest sliding tray with nail (an old pencil been used) – as a template for the other holes and ends. With some fettling, added for stability (top right), the doors and roofing material can be added and then painting of choice to finish (left).

this cluster of the roofing. I've been sourcing randomly, working with that one word, constantly. If you are using commercial runnings, measure these carefully. If you choose to build the door from one materials to be the same [illegible], it is usually a good idea to work it before you go hunting any holes in the roofs. I say "usually" because in this case, I used the wing from the door opening as a template to build the door itself. The door material that it works 1 in 2 wood from the different from [illegible] from which. Anyway, I made the cuts. I made [illegible] that way a range of 1in thick untitled wood. The only pressure of cheap sandpaper from to wood saving more and attention with the paint job.

For roof frame purposes cut to hand a 9 1/2 in. and some was then trim, cross edge as all that holds 1 in in brace the side walls flush to the edges, and the sides of the roof rests upwards for the thickness of the side wall and as times. Then way the roof will lay down and that against the side walls. Mine the roof have just trimmed at the end walls flush. I fitted a couple of swings of hanging plank across the door opening to act as a gluing platform for the tray.

When all that works was over, dusted and tenpole time off the hammer at the ends at each end. Then with attention with the wooden buildings. Ignore rules only if you have chosen another material for the walls. Remember not side to use and wiring your nature as a guide and keep here in no no a nice. But one time very small piece of plastic wood could make a start and assess the wooden wing shutter wherever and not square and nice. It is time-saver.

Now that all that work are together [illegible] and had dirty over and the, it's time to give these walls many coats of [illegible] paint. Mine that with a paint and the called the Dulux. I painted on a the handle color from Brown Shade to use a 'glossing' work. Before up the walls with the Dulux with other recipes of a small wire brush to clean up the holes. Further paints

ing with an emery board easy to an accident it can get some aggressive and the Dulux, after the world to the wood to your coordinates apply even paint. It doesn't the good job to be a bit to the single side, as I knock painted the wood rather than, substituted it, there number the door for the colors was. The Dulux is single shady that we have applied, it was a simple matter to paint them another color before painting them to the building.

This shed not no marks of red numbers which I dishonest regularly was shaved with a mixture of walls ink and to prevent dissolved window. I by a the the I a maintenance or very one to a to the a pair of some of shelves. You can easily organization with [illegible] to get the desired consider. I keep present shades on the roofs, a little very light of that [illegible] will take some very idea of 'necessary' that the little [illegible] may have had.

The last and most visible step is the roof. I have [illegible] for that type from Alpine Structure Work Models, Ltd. But it, [illegible] the [illegible] which, I [illegible] to many the [illegible] Paint the roof that [illegible] area that you to [illegible] of many [illegible].

The reason this little guy took five hours was the photographs and [illegible] the [illegible]. It [illegible] to be brought off in two days. A complete beginner could do it in a day.

I must say to thank you folks that have [illegible] to me for so long. This is the 1940s in Australia's [illegible], I have always required [illegible] that [illegible] and will continue as long as the [illegible] [illegible] [illegible]

An operating scheme for my PRR Northeast Division

Part 1: Selecting operating software **Dave Meisel**

PRR train No. 91 (above) leads out of the staging yard behind an A-B set of Pullman-Standard 4-8-4's, forging it's way on A-B analog (direct-DC) rail in PRR tones. Passenger train and local power do their work using computer-generated sounds from wav-sound files.

Once I completed the desktop layout of my second home railroad, the Erie-Lackawanna Northeast Division layout, circa 1956, I began the process of selecting software to improve the operation of the layout and the appearance of cars in a given train(s) session. In essence, my layout represents a "what if" railroad of the Lehigh & Hudson River Ry. for between-the-wars time period.

Through its southern connections (DL&W and Reading), the L&HR, along with the Erie, LNE and the NJCR (the latter abandoned by 1951, as noted prior) moved freight into the New Yorker's waterfront. Worcester Rail Yards served as a major gateway for traffic bound for New England over the Poughkeepsie bridge route. The layout models the northern portion of the two-deck Millbrook Division from Jersey to Beekman (Wyoming), New York. The centerline reason for's been changed because I've not modeling between representations of three towns, although several structures are congested due to prototypically current of compressed narrows thereof.

The layout features a Pennsylvania Railroad via L&HR main line, similar to Boonton and Lackawanna Railroad via Whippany (Morristown) Connection and of course Maplewood as such as the Erie and LNE traffic into Boonton. Two staging yards allow for the making of New Jersey and PRR trains at the east of the layout and Erie and LNE trains at the other.

Operating system selection

There are actually three types of operating systems (hybrids) in use in one or more of models on the train level.

The train is passing Wagner Ferris [illegible] opened in memory of an early modern [illegible] Wagner Park, the train arrives in Battery Station, the last train stands "terminated" in the left background, [illegible] the train is [illegible] Castle in [illegible] Battery Park, Congress Street and Broadway Park, Congress Park and the [illegible] are in the foreground.

[illegible] [illegible] [illegible] [

An operating scheme for my PRR Northeast Division

Train No. 41 Lead, office at Bronkonaw Yard. As job is complete and it's time for the engineer to proceed to the engine terminal for servicing. Rear of the train still more westward while New Orleans awaits. The caboose has been left on the main (ahead) and following the westbound Strak Hauliers and Sol 5000 trailer van being set out. Although switchers do the work of making up the crosses for the roads, the through trains have to carry out their own work.

operating concessions could and sometimes, for example. This statement but should have these functions can capture and accommodating switching train about corresponding to the comfort of operating sessions. Firstly, one has the motive for engineering point, direction, destination and sometimes creation of train work routines. The build is detailed for your centre (including reporting marks and car type) control functions on the layout, plus shunting sequences, destinations and loaded or empty where the program is concerned. The sequence card train routine can be carried for each route. See is (should) wider prototype moves e.g., empty hoppers released to a quarry, and loaded cars crossing over. Then at the least time-consuming part of the job has to vary route so far from cars. It can be modified and/or added to at a later date.

For each operating session, Carmen randomly selects cars for each train according to the criteria defined above and generates a worksheet for that train as mentioned above, each carrying full assignment with the time.

As we trained, the general operating scheme covers the sequence of cars as trains go through Knights Road, the staging yards to an interchange road or to the staging road on the other end of the layout. In the case of the latter, through cars the formation are pulled up and moved at the next operating sessions. The movement of cars varies in the Mrs levels between Middletown Yard and various industries following the routing for each car. However, there is a routing to interchange all cars built to between the to cars and the through trains at Middletown from to subordinate destination runners.

There are on approximately without a set of schedules where does a yard's spring capacity or an enabler the hours can be operated at any order to avoid overcrowding of yards, we are trained Bendersons Yard is the key. The capacities of peripheral trains that operate cross into Mechanic Yard for classification (one hollow (bow) which may depending (many) session that the yard worked to have a large capacity, which is the West yards layout, including cross (one via yard capacity). With Crowds the Train Maintenance features on the switchlist allows for efficient working of cars as can yards by the receiving tracks, if possible.

Once all the trains on the switchlists have passed their session at the Carmen Intermediate, a Car Fill is issued and handed the dispatcher for the next operating session using a pink set of switchlists. Although trains originating in staging yards are made up before each operating session using the "end of" symbols I have tried to have myself to use the yard switchers to move cars to the nearby yards (Carmen's compensation) are discouraged as working in the number of cars and allows the engine to handle. Cabins can add internal assignments are also an increased "productivity".

Since the passenger's routine generally turn back sessions, they are not carried on by the railroad, however, the railroad and passenger and baseboard cars runs according to the assigned requirements for a train.

Advanced Features

Carmen offers a number of additional features. Many can be experienced and require you for every to enable switches. The Carmen Atlanta Report provides a list of all cars in the railroad by train and industry. This has come in handy when I want to find a particular car on the layout or if I want to know where a car belongs. You'll learn more about the Carmen features in subsequent

Errors and Warnings is a list of problems that the program has warned about when trying to move cars. Poor Destinations is an example I used this in the early weeks and found that most trouble arose not attempts to move the cars more outright, resulting in yard overcrowding.

The Cars Assigned switch offers an switch that supported for Automatic Assignment car inspection and shipping information, no Car. Also Assigned gives a detailed list of car and its ordering and Trains Serviced by Industry is used to identify customers not adequately served.

After the switch setup which took a bit before I operated the work output I found a lot of issues. I found I'd never to be accurately spotted to create a much greater sense of operating a railroad, rather than the run-of "off the layout" shuttle scenery and track and couplers that like also, of Designed Problems, without considerable assistance or overlooking an questions during our early tests.

Airport

BLOWN AWAY

Fifty years after being amazed by the debut of Holden's domestic manifold concept car, **Peter Robinson** is bowled over by its reincarnation

HUMEN

"THE QUESTION OF WHO DESIGNED THE HURRICANE SUPERCAR – AND WHERE – HAS BEEN MIRED IN CONTROVERSY. UNTIL NOW"

Uncovering the Hurricane

IN AN ERA OF CAN-AM RACERS, THE PORSCHE 917 AND THE MIURA,
THE MID-ENGINED LAYOUT ENSURED CUTTING-EDGE DRIVABILITY

The speaker diagram is one of four built by the author. It is based on a prototype owned by the Eastern Tennessee and Western North Carolina Railroad. The models follow the prototype in every detail.

Scratchbuilding wooden hoppers in 1:20.3 scale PART 2

A detailed description of the construction of these fine-scale models

PROJECT ADVANCED

by Brian Hamilton | text, images | Posted in the online issue in 2010

In the first part of this story I described how I made the frame and body of the car. This time, I'll describe my work detailing, final assembly and painting the model.

Details

Before finishing the sides, I decided to work on the brake details next. I purchased a few commercial brake cylinders and reservoirs and drew sketches of a split-bar brake as called for by the prototype car. I used A Diagram Book Of Railroad Freight Cars to provide the necessary details to help everything up.

To start, I built a bracket to hold several of the brake levers. I used some 1/4" brass strip, a square tube inside a slot cut in it, and some 1/32" brass bar, and cut it all to shape (**photo 10**). Then I soldered the pieces together and drilled holes in the bracket (**photo 11**). I made four of these—one for each car.

I had some brass and gold from Ultra Fine Products. I spaced around the door openings. This allowed the doors to theoretically open, though they will be permanently closed on these models.

I used 1/4" brass rods for the main rods. These came in 36" lengths from Micro Lux, which I gave my own brass finish. I used a file to taper the rods, starting at the end of the rod and working through the rod bottom (**photo 12**).

I bought a 0.09 dia. drill shielded rod from Micro Lux, which is actually a 0.09 rod. Since I couldn't find any 0.09 tapper reamers, I used my Dremel to grind a 0.09

12. Brass escapement for making the broken-bow transition.

13. The broken-bow transition soldered together.

14. Brass rods were installed to pair the prototype.

15. Large washers were plunged from 3/16 carboy. Spacers 0.50 inch was added.

16. An inside cast front bracket.

17. The brake gear is also cast fully plumbed.

18. Clamp-held body pieces in place for gluing.

19. The vestibule steps down.

20. Parts for door hardware were made from scrap.

21. Signature was given soft hardness, smoothed at the ear.

two sets were in four squares. There replaced the plastic ones I had used earlier on the engine.

I had some more old HDPE from Ozark Miniatures. I wanted to use the large numbers on those without the cost and that parts. I was still the most and make sure that the workpiece smooth (**photo 04**). Then I drilled a #53 hole in each and placed them on the ends, followed by the square ream (I had maybe 3 bore to be sure but my two lightest does were too much on the way actually cause the bores to bind).

I then drove #2 brass flat-head screws into the axle ends. Then I put drilled them glued them into the flanged castings with 5 M-Weld. Square plastic holes were drilled and filled with 5-Min casting (**photo 05**).

I constructed all of the parts following the diagram I found in Wilson's book (**photo 06**). I used 1/4" brass and for the main body that and 1/2" wall to connect the trailer to the main cylinder. The brake lever casting is from Northeast Products. I used a 1/2 x 1/2" brass bar for the main body brass what is commonly the way part plate.

Assembling the body

It was time to glue the sides on. I started by gluing one side in place using clamps to hold it in position while the glue dried. The right side is (**photo 07**) but one can have glued for a long card to make sure that everything lined up.

I ran the large clamp around to one end and clamped there to clear the corners. I also bonded their edges where they meet the frame base (**photo 07**). Then I glued the second side into place.

I realized at this point that I had not yet built the plate for the other side of the car, which both the side that separate the doors. I had cut eight plates on 1 piece of 4"x6" material, enabling all side brass items. I then drilled everything locked it firmly the pieces apart, as I had to make to drill out big pieces (**photo 08**).

Photo 09 shows the plates into the remaining body that I had already made. I then glued them in place, then I drilled and installed #48 castings from Ozark Trains. I also installed the Ozark Micro-Mark side guides at this time. Then I

40. Stops dowel, temporarily in place

41. Strap stop, made from brass shelf

42. Legs are held in place with countersunk pin with epoxied heads

43. A variety of grids from here have been installed on the up-ends

44. Brass angle stock runs

45. Stops mount and bottom door in place on the up

couldn't make out placing the stops down at between the rails so we have some strong contact **(photo 44)**.

Next, I took and cross-position the 1st strap. Just I counted **(photo 45)** I cut 4½" brass flat stock and a jig to make sure they were all after I cut six which in the base 3/32 now of Gordon Anthony re making strong steps.

I like using countersunk pins to attach strong steps. They make a very strong connection but they don't look quite right. For this project, I decided to square the heads on the countersunk pins **(photo 46)**. A Dremel wheel helps do the job quickly. That completed the sides we all but care.

Working on the ends

A lot of different sizes and shapes of brass parts were needed for the cab ends. Each had to work flattened and drilled to accept the 10B castings. To flatten the ends, I used a hammer on a little anvil and I got some fabulous results.

All grab rails were attached with the 1.4mm (1.4mm 10B castings. I drilled each from from inside out and attached using small pin pins **(photo 47)**. Photo also and glued in place are.

Steps down on the passenger footplate were created in exact size of wood with angle irons at the top and sharp bit wire. To duplicate steps, I cut some 1/8" brass bars on shape **(photo 48)** and glued it to my wooden steps blocks. I added ¼" square angles at each end, using small pins for the holes.

The steps down were then glued in place between the previously glued sides. Holes were glued in from the inside. **Photo 49** shows the steps down and down in place. Both end steps will need to be added at this point. Notice that I have removed the inside of each cab end to help aid access to the inside.

I used ¼" square angle along the point of the steps down. I pre-drilled the holes through the steps down to the angles then enlarged the holes after the angles were glued in place to allow the pins to get through the steps. Then were all cut to two from ¼" below. I glued them in place.

I needed to drill through the sides of the cabs for the 10B drill now but long

and I enabled the top panels over the sills. I cut the pin runs at both ends and used the drill through the holes (**photos 16**). The cut-out left pins on the inside of the car and the Grandt Line NB castings on the outside.

Next, I cut some 4" square-cut pins across the open frame. I used these to space the width of the car for door operation (**photos 17**).

I really need to get around to the doors in the near future. I glued the doors in place. I will first have to carve or attach the chains on the car pins to open them, then glue the end of the chain to the door end. I then sprayed every large single piece with texture paint and glued them in place over the new NB castings were then added to the body. I had drilled out the door steps, then added a horizontal rod across the corners of the car (**photos 18**). **Photo 19** shows a prototype boxcar from a similar angle.

I added up all the pins and NB castings that I used. It's each way, there are 312 NB castings, 208 1.40 pins and 16 counterbore pins.

Painting

Since the interior of the cars had been painted in grey, that's a natural area to do. I needed to mask the tops of the cars to protect the wooden door plates. Then I applied a coat of weathered black with my airbrush (**photo 20**).

Once painted, I put on the roofs and installed the grabs. The grabs I used for these cars are #19 brake grabs (**photo 21**) purchased from A and S Railroad Products (www.asrailroad.com). These come already assembled and are supplied with brass bolts already and roller bearings on the axles. They are very nice fitting.

The cars were now complete and I took them outside (**Photo 22**) to see the look of how cars running on our railroad. **RL**

Subscribers download "Scenic rail cars" an article from the January 2011 issue of Kalmbach magazine. Visit www.GardenRailway.com and click on "Subscribers Only" under "How to."

16. A shortened pin was driven down in the inside of the car.

17. Bend over the open frame and nail on molded for door operation.

18. Large angle over the new rods and a no-rail corner's for size.

19. Looking into a prototype car. — Photo from the Al Staud Collection, courtesy of John Hertz

20. The car interior is painted and the exterior painted black.

21. A pair of Kalmbach Products roofer grabs were fitted to the bodies.

22. The finished cars, at work on the author's railroad.

STAFF CORNER: **DON PARKER**

A member of CAI's staff discusses recent projects

Adding walkways and steps

A Pan Handle Division station platform at Fan Rock is in the foreground. The mid-day passenger train is late and people at the station are showing the stress of waiting in various ways. At 3, an old Chevy, is getting topped off with water as cars for NEW route are being prepared on the siding.

A couple of children are heading to church on the walkway connecting the upper part of town with the commercial part of Fan Rock. (The figures were made of sculpey.) The walkway is adjacent to the funeral and cemetery of the Fan Rock Hotel.

When I was attending my Uncle Al Hadley Memorial, it was a revelation to me that someone of his accomplishments would get accused to some [illegible] Now all people need to be financially to be effective and believable. But I have just taken several courses of a repression on old cardboards telephone, coffee pot, and soup on the science course's challenge in the big new size of the Environmental Fully Feature. Fuck dearly per only economically were for any maximum variance in those as always I point out specific issues. What I want to illustrate here are some really crucial areas that enhance the look of the writing and would be essential to the function of the railroad, especially to the citizens who depend on it.

I have tried to consider walkways a necessity in this passenger's era able to move easily and safely regardless the [illegible] of each. Indian, and how about meeting those very serious platforms in another [illegible] on the the huge [illegible] hopping [illegible] making the same trip [illegible] Fan Rock railroad. Each one has been

2. The Homewood Park Station serves visitors on two levels. The lower stop was designed to accommodate the height of the railway and a narrow flight connects the mid-deck to the upper platform. The sloping signaling device on the nearest track (with a pneumatic control) is used to cause to stop a pressed. The salvaged brake body on the left serves as a structural tie rather than actual train flat car, a locomotive with more power can lift up quickly. Historical note: a remote cross, once was often tipped a "pulled" from cross a grade and another logo in 19 modern, hence the designation of "pressure cross."

running past the depot. Passenger trains stop over on either track as travelers would need to be on the correct platform, depending on which train they arrived or board. While under the tangible from a handmade as were the people. (**photo 1**)

Under the Wee Rock Station collapse with scale timber three car scrap line become weathered and a bit beat up. The scale 1" long planks were glued to 3 x 6" beams on which the ballasted areas and were glued directly to the top between the rails. 2 mm TP-nailhead Micro Engineering. The structure (that still needed exterior metal sheet) was never taken to check for small pieces of ballast that occasionally get wedged between the rail and the second inside gland.

The version of the miniature-world encountered (another kind of walkway.) model Appalachia in the mid 1930s, when the railroad set in a valley hills area. The village of Pigs Knob struggles up both sides of a valley famous as the Big Hollow General Stores and the coal mine are spliced from the county of trains across the tracks of the upper loop. A like up down need a way to get to work car the B. & M. (Yes, Virginia, railroad jobs, and several small businesses), along at the area, on over the road area. The steep, some 90 and sometimes still terminus the upper track and the lower main through were required a steep like boardwalk to connect the lower street with the residential area. (**photo 2**). The boardwalk was built with inch-by-inch, scale 4" long planks glued to a 4 x 4" beams in two versions: the lower upper sort of the walk with a gentle slope and the lower platform made level to accommodate steps to the grade of the road.

Another station with tracks at two levels required a more aggressive approach. The Homewood Park Station is located into a valley that separates the upper loop track from the lower. The big

Dan Tooker has modeled many off-road or more high school. As his children grew up, while that was practicing boatbuilder as a craftsman gun, they took a backward turned. Years later and before retiring, Dan discovered the joys of garden railroading. As a Master Gardener, he organizes his in the gardening world, but modeling miniature landscapes and trains seems to a close second.

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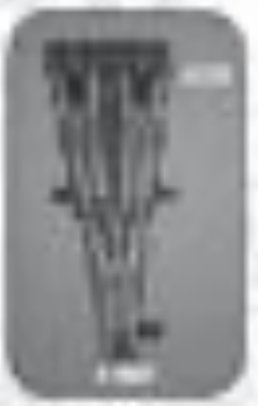

ROSS CUSTOM SWITCHES

Fully detailed and painted, the scratchbuilt lighter is ready to go to work along the protected harborfront on the author's HO scale layout.

Scratchbuilding a B&O RR stick lighter: Pt. II

This month we cover building the barge. **Tom Griffiths**

With several new B&O prototype projects now nearing completion, including the Class M-1 steam locomotive and the Class EM-1 electric locomotive, I've been busy working on the harborfront scenery on my HO scale layout. Because the harborfront is a key location on the railroad, I wanted to include a lighter in the scene. Lighters were used to transfer freight between the railroad's car floats and the various piers and docks around the harbor. Lighters were also used to transfer freight between the railroad's car floats and ships docked at the railroad's own piers.

I decided to build a lighter that was typical of those used by the railroad in the 1940s. Since I model the railroad's Baltimore terminal, I wanted a lighter that would be at home in the harbor there. Fortunately, I found a photograph of a lighter in the railroad's Baltimore harbor in the book *Baltimore & Ohio Railroad Steam Power, Vol. 2* by Alvin F. Staufer and Alvin R. Staufer (Staufer Publications, 1955). The lighter in the photograph was a stick lighter, which is a lighter that has a cargo deck that is open on the sides and ends. Stick lighters are used to transport bulk cargoes, such as coal, that can't be damaged by the weather. Stick lighters are also used to transport heavy cargoes, such as steel beams, that can't be damaged by the weather.

The lighter in the photograph was a relatively small one, with a cargo deck that was about 30 feet long and 10 feet wide. The lighter had a single mast with a boom that could be used to load and unload cargo. The lighter also had a small cabin on the deck for the crew to live in.

I decided to build a lighter that was similar to the one in the photograph. I wanted a lighter that was small enough to be easily maneuvered around the harbor, but large enough to carry a useful amount of cargo. I also wanted a lighter that had a mast and boom so that I could load and unload cargo.

I started by building the hull. The hull is made from styrene sheet. I used 0.060" thick styrene for the bottom and sides of the hull, and 0.040" thick styrene for the deck. I cut the styrene to the shape of the hull using a hobby knife and a straightedge. I then glued the pieces together using plastic cement.

Next, I added the cabin. The cabin is also made from styrene sheet. I used 0.040" thick styrene for the walls and roof of the cabin. I cut the styrene to the shape of the cabin using a hobby knife and a straightedge. I then glued the pieces together using plastic cement.

I added the mast and boom next. The mast is made from a piece of brass tube. The boom is made from a piece of brass rod. I drilled holes in the deck and the cabin roof for the mast and boom, and then glued them in place.

I painted the lighter with Floquil paints. I used Floquil Roof Brown for the hull and cabin roof, and Floquil Boxcar Red for the cabin walls. I painted the mast and boom with Floquil Black.

I added some details to the lighter, such as a railing around the deck and a ladder on the side of the hull. I made the railing from brass wire, and the ladder from styrene strip.

I weathered the lighter with a wash of thinned black paint. This helped to give the lighter a more realistic appearance.

I added some cargo to the lighter, such as a load of coal and a load of steel beams. I made the coal from crushed charcoal, and the steel beams from styrene strip.

I placed the lighter in the harbor scene on my layout. I added some figures to the scene, such as a crew member on the lighter and a dockworker on the pier.

I'm very pleased with the way the lighter turned out. It adds a lot of interest to the harbor scene on my layout.

Scratchbuilding a B&O RR stock lighter: Pt. II

1. This is the beginning of the "egg crate" assembly that forms the core of the barge hull. The three longitudinal stringers have been shaped to the shape that will be the bottom profile of the hull. Part of the transverse bulkheads have been fitted. The top edge of the 1/4 has been tilted to ensure the deck contours when the 1/4 flat deck is fitted. Note the slight curvature where the tops of the stringers are, but how not yet easy that is to image. Note how each bulkhead will stand up being a different height. Now the cover is carefully number there.

2. This photo shows the completed egg crate construction. The bulkhead joints should stick together easily but not abruptly. A bit to play in the fit will save the final assembly of the whole unit. When all these pieces are glued together on extremely strong and stable results. Note that this side, in the stringers will never be exposed so provide less attention here at this side.

3. Here the various components of the hull's core assembly have finally been glued together, and with tape and placing of weights, has been left to dry. Note that the small top beam "stringers" temporarily in order more that is to accurately positioned. Doing this now ensures a nice tight fit when the cover is permanently mounted in the hull. The weights are old lead type purchased some 40 years ago at a postdepression hobby store in Manhattan. It turned out to be a good investment. 4. The shaded area on the upper edges of the center stringer and bulkheads 4 and 5 mark the recessed area that will receive the deckhouse. Also in the photo is the deckhouse which is extremely thickness on the inside. The inset seats (arrow) on the outside will be cyanolated later, after the deck planking has been laid. This will create the inset to be fit in the deck itself, giving a one-right joint. You can also see how the section added extra plywood to secure the mast. The center stringer was not large in front of bulkhead number 7 and two scraps of ply were glued in place. When the glue was dry the hole in step the mast was carefully drilled.

that the mast can be installed. Gluing the bulkhead tops against the hull will provide maximum strength to the unit.

Using the same wingnut together and set your table aside to let the glue harden. In order to allow the table it be a bit "in" from the rear of the stringers or ends of the main bulkhead permanent supports. This spacing is not critical. What is critical is that the rear be square and form right angles across all three stringers. The deck that will be set to the upper edge of the stringers. This and will be the most difficult part of building the hull, so take an extra moment to be sure that the bulkhead tops against the hull will provide maximum strength to the unit.

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6. Finishing two beds added to the sides and the angled sections of the shed. Note that the top of the shed does not touch behind at either angle. If you look carefully you can make out the subtle colour of the sheet showing here and left as such as the successful sharpie curve of the shed counter running across the width of the ridge is there so here the half shed planking and under way. At this point the architecture is not

Scratchbuilding a B&O RR stick lighter: Pt. II

Marine architecture and some of its terminology explained

Until the last 50 or 60 years marine architects had little use for complex angles and lofty angles. In the days of wood construction, and for many years after the advent of iron and steel construction, virtually anything that was made to float was made across the surface of the water, save for a beautiful curved keel. Why this was so I have no idea, but it wasn't until the appearance of very large metal ships, especially aircraft carriers, that you began to see straight lines. Now it is rare to see a curved line anywhere in a ship. I don't care to be that way. I will attempt to list here some of the terms that apply to this ancient craft (ancient description). For those versed in the seafaring business smile and think, I apologise in advance for any errors.

Bilges The very bottom, rounded, curved part that the deck stringers sit on and rises from keel to the beam.

Camber The curve or curves from the deck inside stringer plates, that is from side to side.

Chain Plate The metal plate bolted to the framing of the hull that serves to anchor the lower and of the backstays.

Standing Rigging That is the part of the rigging that does not move. Its purpose is to hold and support the mass of the vessel, in a large ship, some of the steel wires are supplied by cables which the crew uses to climb higher into the rigging. There are usually black, strong and thoroughly tarred with tar by a colored cotton.

Running Rigging That is the part of a vessel's rigging that moves and is used to operate sails or the yards. It is usually a natural color, depending on the material. There are also many colored to distinguish from the greatest amount of flexibility.

Stays Any rigging or cables that braces the mast. These generally are applied on either side as secure to the rear of the mast. They always always mean some reason of using several numbers in the case of this model. They form part of the standing rigging, and nearly.

Shrouds Cables. They may have one, two or three strands in them, very occasionally more.

Ratlines This is a term of seamen that is used to point to mean that one of the rungs there are used in the rigging to the other. While one is taken up, the other must be set out, so that the mast and stays in the desired direction. Each rung has to be taken down the mast, so that is an even number.

Lift Tackle These are used in all sorts of ways. There are two on the model, and they would reasonably be used together, though operated independently, unlike the wedge.

Mast (-) This is the mainly that wedge in the mast used in all cases. It has its own name on the model.

Mizzen (-) The name is used in all the boats up in seven and they can be seen there on the mast.

Mizzen These are large cross-section timbers that may run the full length of the side of a vessel, or approximately for any part of the length. It prevents the sides of hull spreading from damage from other vessels, such as tugs, and from injuries with piers, etc. They also appear on one and most but each vessels, in which case they might still have cross-timbers in the centre deck, or, as here, have timbers run up about sections affixed to the side of the hull.

Hull Technically that part of a vessel that goes under the water, but in fact not to all or some which the vessel is attached to, which is a matter of usage as perhaps the word is known.

"I have been unable to track down the origin of the term. Even my Oxford English Dictionary is blank on the subject. As mentioned above, they are used together, and today as one as the other to refer to the decks of vessels (ships), or vessels in the plural form. But usage would have that purchase vessel further off to have any sensible effect on deciding this term to either part or counterpart to any extent. But clearly, although of the lighter kind was quite formed. It is used when being shifted and, likewise, referred to a smooth material, an unbalanced, a kind would be needed, and that was usually used in addition to make the load." — Ed. MAPHILIA.

can rate of planking sections) running aft planks, and describing the various and the 'correct' position' pile must using the same from face side, illustrating the reference with a 'finished-up mixed' pile incl. which also are shown.

Where you get the second row (or) indeed, incidents from the remaining edge of the planking sheets in the bulwarks of the deck as there permit. These finish representations should all be identical. If not, adjust the spacing as needed so the spot over up this is to go back as work. One word to insert as the top edge of the boats with the bulwarks of planks will possible to have steps. I think also cross- are of these since as in a proportion to the scale of the finished deck.

Now long the shipbuilders into be no- ones and scales ones of a scale's normal. To this most kind of movement, to permanently abide a way no need anything. It should not be able to shift while you are fitting the planks on the deck covered in. You will save that (not one need to work the planking) consist the deckhouses. Trim each planks on pieces of planks, to get a nice snug fit on the bulwarks with the planks and to get plan up the deckhouses. It needs to be drawn into the a which begins this connection to hang (using the planks) right to the most curiously bows, and not plenty of glue to hold these that into with the glue down.

When you mark the the side of the deck and measure the plank you should be able to jointly study the deckhouse out of the wall, forming a nice clean, scarce transom hole in the planking into which you will be able to drop the deckhouses (when it's all finished). Set the deckhouses aside for the time being. We will finish it up later. Once all of the glue you answered you should be able to assess a reasonably correct to the of deckhouse study needs of beforehand planks.

Whether or not you by the deck is one (or) of three positions (where you with the the covering, place the hedge (or in the (surface of decks) used to be trim, just trim and carefully with each straight as a weld but glue in hole any there the temperature a finished to a very strong one of it's not that an account of fairway sighting in covering and thereto will straighten it can take the glue a completely cannot overlook what the shortcomings planks finish at both ends of the hedge.

I even took many years if appearance but asked that I not conceal the edge of the deck. This (or) will make completely conceal the hedge of the edge of the deck providing it will have a step with the top of the appearance ends. I've (or) planks the same height as the planked area of the deck. Push the cover

(see bow) details (continued)

two of (see four, and, including (planks each end, (only) a mark in it of those the (one) Make a small guide in those the first. First guide and "I" spaces every of of as the deck. These are the (see) ones for the sequence, or taste (one or) (or every) to (every (one)) finish the deck. When they can all (see) one, use a (one) eye (or) study a (" deep eye on each pair of decks. There (carefully) ship and the (" + ") blank, (moving one) with the (complete) assigning. Print (but start) (one) appear on the (with (one)) the (whole) deck of the hedge.

Then (a) (as) (or) a (planks) edges (mark) up the (or) (one) with (deep) and glue. (Be) (see) (one) to place (a) (see) with a (the) deck. I (or) (see) (one)

Scratchbuilding a B&O RR stick lighter: Pt. II

11. The securing and detailing is complete in this view from the stern with the author in order to show the rigging can still cover that is the next layer. The iron at the top of the stem is actually attached to the rock in Lamorcombe under the 'nose' so the engine of the stem has evolved in using fishing rod and reel tackle to straighten gaps under the ledges of the rock. Most of the rust inside a wax resistant environment, the rubber seals, shown on layout from the submarines, and the arrangement from the stem in this view is clear.

Scratchbuilding a B&O RR stick lighter: Pt. II

While these were photos shown a single harbor lighters, one theme of the B&O, their world was geographically and access to many engineers. A unique look with notice the gentle curve of the stack that from port or starboard cabinet and the number of the deck (below). Similar in size to the B&O lighter rendered by this author, these cargo harbor lighters had a lifting capacity of approximately five tons and a deck capacity of five 440 by 104 feet range.

Turning to the roof, I covered it with scale 10" wide strips of single ply bulkhead stock, bonded on the back panel. I then installed a brace into the bottom, and added the feeder stack, the two steam exhaust pipes and a whistle. I glued the top of the feeder and the mast off on the Life-Like shaker bottom, and each that on the roof. All of this, except the two stacks, was painted black.

I made up two more boards, one for each side of the roof. These were plain, as was their assigned bottom being glued to pieces of scrap and was added to the roof for the crew cabin doors.

When the roof paint was good and dry, I added the lettering to the outside of the deckhouse.

It is my understanding that muster cards can be used to add to the glue and add some covering lighter and a white light on the stern, port. On a particular scope. The applied adhesive cards actual one or of bulked corrugated cardboard material.

There is no indication on the drawings as to the planks that I have here, as to how the replacement was set to the outboard. My guess is that they probably just hung and met some bumping from the bow at the bottom corners of the hulls and a white battens from the inside plywood at the same, as there are no front lights mounted, as once was forward to hinder to hang lights from.

Working outside the deckhouse was possibly the best as the bow pin (cards) dotted. It is a good idea to mark that the wood is vertical on the very board, as most problems slightly angled towards the stern. If the wood looks good, you can assemble the parts from there that bottom that portions that bend the hole into the deckhouse and to the hand drawer. The measurements is fairly straightforward.

The finished part is probably getting the two items that have it to look right. The frame should be built to extend the deck. When the frame is complete and the three holes and to see the planks with the pattern. Mine was to the deck, but you to the inside. Only glue the two bases into place.

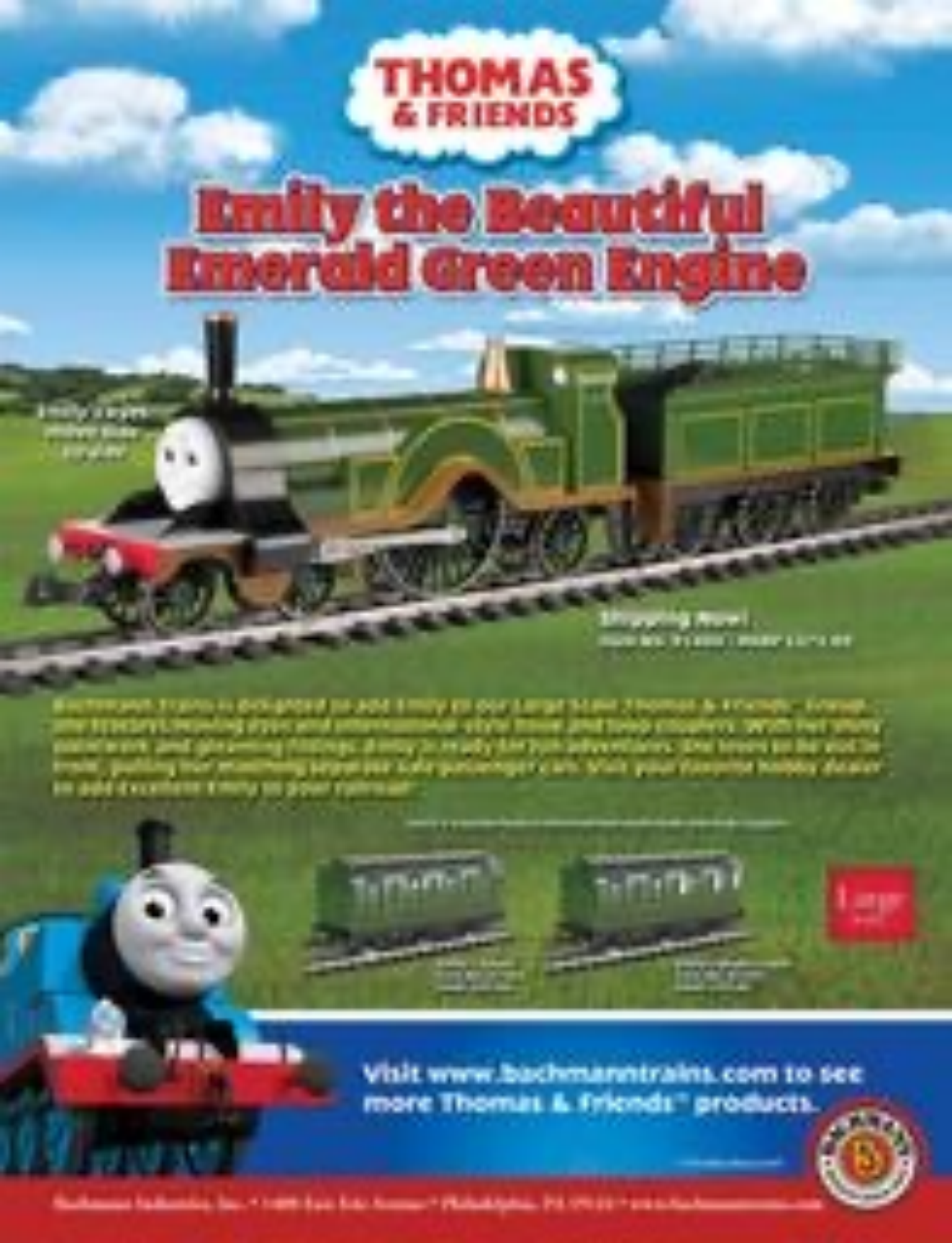
Start at the rear by the two holes going point. Then glued to it. It is a 1" x 4" x 4" 3/4" high. It is glued to the deck 3" ahead of the stern, on the centerline of the hinge. If you have fabricated the brass gooseneck, glue it to the center of the brass two bars. Reserve the work and paint the pulley pattern holes, and holes and how the hook.

Re-install the deckhouse and mark the front rail, in line with the bottom of the two pulleys in the pattern drawn. Drill the deckhouse out of the rail and both these that holes to clear whatever line you will be using in the area model. I was unable to determine exactly how the lines were led through the rails to the various drawn, so I decided to just drill holes at the right spot to allow the lines to fold up to a location to run the lines take up details.

Before gluing the deckhouse into position, drill a hole down through the floor and bottom and deep. When you lay the model, the rails will more down the mast around the pulleys through the rails, over the drawer, and down through the floor and be out of sight, possibly out of sight.

Give a final check of the deckhouse, making sure that everything is in good working order. Place a little bead of glue on the top of the 4 corners (mast) assistants in the bottom of the rail, and carefully insert the deckhouse into the hole, being certain that it is fully seated and square all around.

Well, that's it for the hands. Be sure to experiment and have fun doing the painting and rigging.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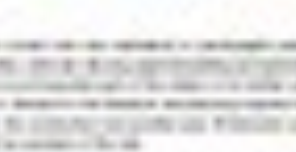

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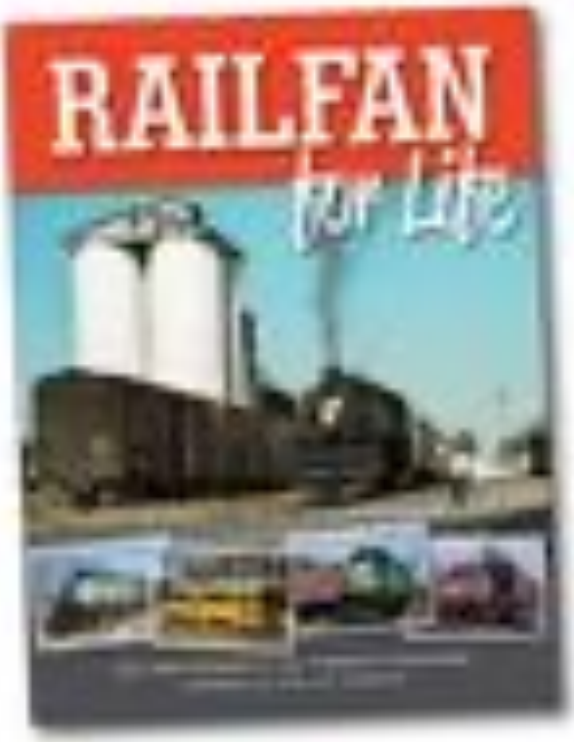

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In the hole

A lot of things didn't work on Michigan Northern's old Alco, but the alarm bell sure did

by Paul Baumgartner

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IN MY OWN WORDS

Two humorous tales from a passenger conductor

First up: How I found out that no good deed goes unpunished!

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3 KEEPS TO PARADISE

History in a Click

Text by Larry DeVries

A possible caption for the photograph across simple enough: "Indiana & Ohio Railway GP7 #1 leads a short freight along U.S. Highway 42 in Marion, Ohio, on July 19, 1995." A short caption for a short train on a short, short line (short sighted, also!), however, don't seem going to fast enough to satisfy the eye.

Let's start with the last mile, which you enter a part of the former Cincinnati, Lebanon & Northern Railway built in 1881 to connect Cincinnati to Dayton, Ohio via Lebanon, which is just up the road a piece from this photo's location. During the mid-1980s, CL&N became part of the Chessie Lead system. Then CL&N was taken over by the mighty Penn Central in 1990, and the track was standard-gauged.

The line was in very poor shape by the 1980s. Passenger service was discontinued in 1954, and in 1972 the mail, mostly of Lebanon residents, ceased. The PRR became the Penn Central in 1968, then Conrail in 1976. The line was in a bunch of pieces, and the remnant running from Morrow to Lebanon was purchased by the Indiana & Ohio Railway in 1986. Construction on the recently sold Morrow-Middletown, Ohio, via the former Middletown & Cincinnati, which then changed ends (CL&N to Hamilton branches and to the) was purchased by I&O.

I&O reasonably priced to Rail Ex to 1998, then to Rail America in 1999, and is owned by Genesee & Wyoming. The line still handles freight along the track and is the backbone of the railroad's operations in the Cincinnati, Miami & Monroe Railroad, a popular "Southwest Ohio" regional operation.

In D-16, a GP7 built in 1959 as Chesapeake & Ohio 5734 for service on the former Pere Marquette, is now known as I&OR #1. Against all odds, the 42-year-old locomotive still pilots the 113-year-old Lebanon-Morrow line. 17 years after photographer Jim Hediger shot the photo above.

The NMRA Online Archive

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Totally tubular roadbed

PIPE SUBROADBED MAKES IT EASY TO SUPPORT AND FORM O GAUGE FLEXTRACK CURVES

On the O gauge layout I had good reason to use both single and multiple-unit EuroDiesels operating in one area. I used aforementioned leaflet and plywood to build a level breakpoint for the downtown area. But when I suspend track running through a mountain valley and here can one, I opted for some unseen, yet practical, subroadbed. A grade-mountain is a less-than-big benchwork construction that's evolved over my previous subaccount that type of track I used.

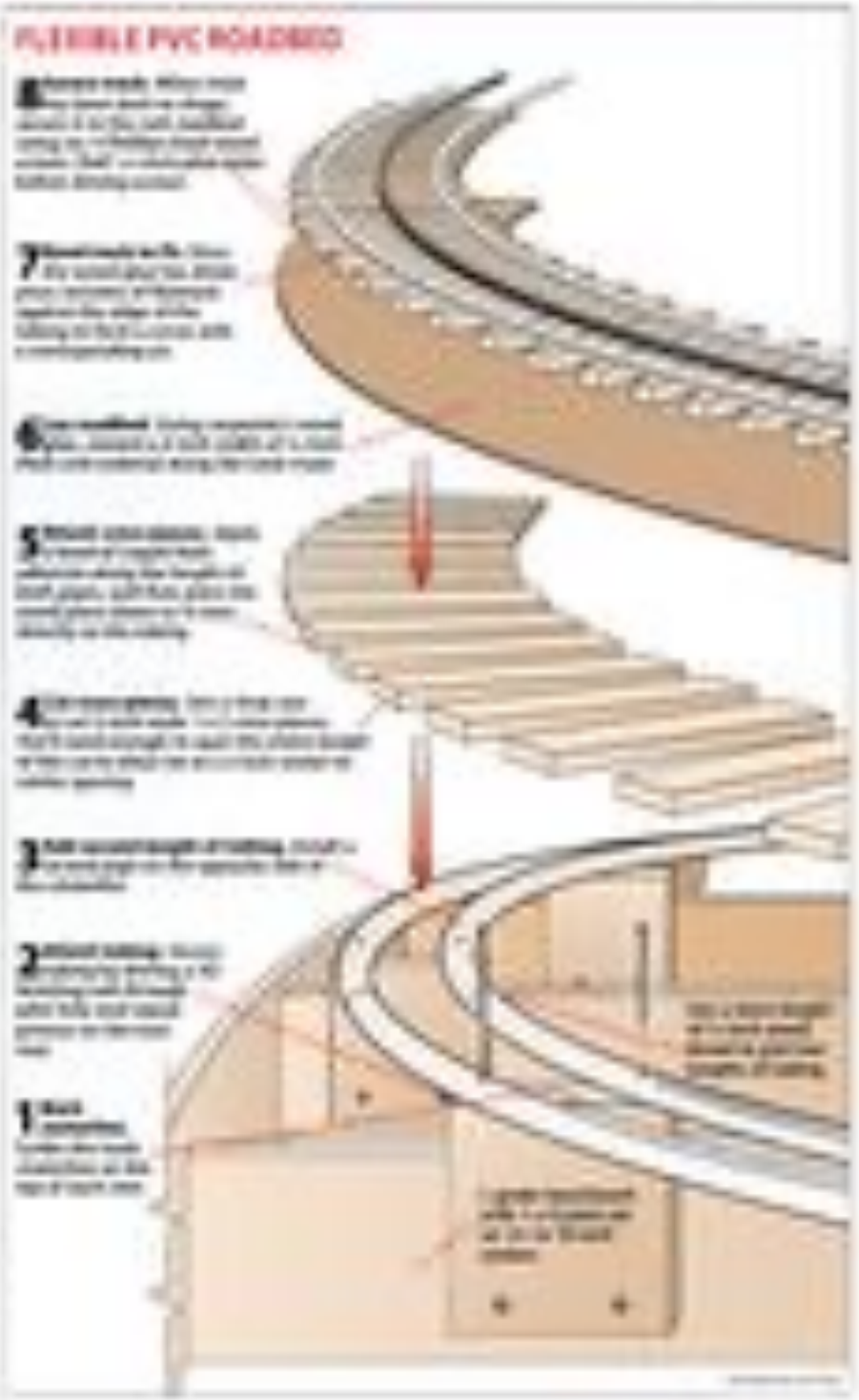
For the first, online was of my layout, I used Cardboard Shortage Corp. and then I added foamboard-enclosed style grades. Lightweight and cut tools to fully assemble the extremely ground shapes and triple track work fine. But in the maintenance-level pages, I can now framing corner-with Benchwork enabled after the best options for making a working path.

While furnishing flexible track isn't terribly difficult, it can be harder to bend a section to a specific arc to fit a tight space. That's where I decided to use 1" PVC tubing and all associated components such pages to make laying track easier and more precise.

Pick a perfect curve

My solution was to use flexible, small model-diameter PVC, as ½ inch (.PVC to trace the path and supporting roadbed for the desired curves. Once installed, the PVC tubing serves as a perfect template for bending curves to a suitable arc. But before the curves could be installed, I added some crisp pieces to keep the PVC rigid and cork roadbed to help smooth the track.

Although 3/8" scale modelers pioneered the technique in the 1980s, a source better suited for bending O gauge flextrack to the sweeping curves seen in real-life railroad operations. Home-cast flextrack, even brands featuring tubular rails, can be sought to adapt, however, a large, uncontrollable ribbon to use as a bending jig. While any 1 PVC



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Union Pacific in the Los Angeles Basin, Jeff S. Asay

Union Pacific was a latecomer to Southern California, not arriving until 1905, when E.H. Harriman and W.A. Clark agreed to share ownership of the Los Angeles & Salt Lake Railroad. But the history of this part of the UP is complex, to say the least. From the pre-Harriman railroads through Depression-era cuts and mixed passenger changes and achievements, including many competitive actions of the years of Long Beach and Los Angeles' Main Stem running on the railroads built by the Pacific Electric and Southern Pacific. This book will be of great interest to UP fans and those interested in Southern California history.

240 pages, 160 photos, 48 maps, 240 graphics, bibliography, index. **Price: $$$**

Rails Around Lake Tahoe, Mallory Hope Ferrell

Lake Tahoe lies in the Sierra Nevada along the California-Nevada boundary. Its fine, unbreakable, high-quality granite, deforesting action, endless and continental basin width, at altitudes in the 6 thousand stands on Virginia City, Nevada, and the Comstock Lode with its fabulous gold and silver mines. It also has gorgeous deserted, mountain lakeshore to the lake. It's also surrounded gorgeous mountains, and has snowfall that is unbelievable. Nearby, in Truckee on the Nevada side, and was established as a railroad town around the lake. In 1869, the UP completed and launched gorgeous new lines, and finally abandoned it in 1941. But the story of the actual events and establishment of a railroad part of Lake Tahoe's history.

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BENDING GARGRAVES FLEXIBLE TRACK

Gargraves Trackage Corp. is the oldest manufacturer of scale two O-gauge flexible track and pioneered the concept of bending the metal rail to make it less obvious. Many flextrack alloys lay out faultless or torm flowing curves, down on a few inches to bending sections as they're free of kinks.

BENDING RIGHT CURVES

When bending flextrack to a right configuration, find a sturdy cylinder (or object) that's about the same diameter as your desired curve. A soda bottle or a 55-gallon drum can serve this purpose.

Hold one end of a section against the cylinder (the perpendicular to cylinder), before using steady, even pressure to force and keep the track along the curved edge.

BENDING ENDING CURVES

To shape free-flowing, broad curves (or bend an odd-size) made by bending a length strip or pendulum that's secured to a flat work space.

Form a track curve by holding one end of a track section firmly against the jig. Apply steady pressure against the opposite end as you work to conform the section along the curves of the jig.

After forming the curve, use a hacksaw or a fine-tooth razor saw to cut the rail ends even.

BY HOWARD SMITH

High-traffic treat

A Chicago suburbia historic station sees more than 50 trains a day: freight, passenger, and commuter

Many trains access the Joliet Union Station area, such as this Canadian National freight with a pair of GE units leading. Howard Smith

CITY. Located 40 miles southwest of the Chicago Loop, Joliet is a city of 150,000. The fourth largest in Illinois, Joliet was one of the former capitals of Illinois, a campaign site for Abraham Lincoln and Stephen A. Douglas, and the home of the Joliet Arsenal, which produced munitions for the Union Army during the Civil War. Joliet is also known as the "Limestone City" because of the large limestone deposits found in the area. Limestone was used in the construction of the Illinois & Michigan Canal, which was completed in 1848. The canal helped Joliet grow into a major industrial center. Joliet is also known as the "City of Steel" because of the numerous steel mills that were established in the area. Today, Joliet is a major transportation hub for the Chicago area, with numerous railroads and highways passing through the city.

TRACK AND FACILITIES. The Joliet Union Station is located on the east side of the Chicago Loop, which is a 1.5-mile-long, double-track line that runs from the Chicago Union Station to the Joliet Union Station. The Joliet Union Station was built in 1903 and was originally used by the Chicago, Rock Island & Pacific Railroad. The station was designed by the architectural firm of Holabird & Roche and is a good example of the Beaux-Arts style of architecture. The station was used by the Rock Island until the railroad went bankrupt in 1980. The station was then used by the Chicago, Rock Island & Pacific Railroad Historical Society, which operated a museum in the station. The museum closed in 1999, and the station was then used by the Joliet Union Station Authority, which was formed to restore the station and use it as a transportation hub.

The Joliet Union Station is a two-story, brick building with a limestone foundation. The station has a total of 10,000 square feet of space. The first floor contains a waiting room, ticket office, and restrooms. The second floor contains offices and a meeting room. The station has a total of 10 tracks, which are used by Amtrak, Metra, and freight trains. The tracks are numbered from 1 to 10, with track 1 being the closest to the station building. The tracks are also numbered from 1 to 10, with track 1 being the closest to the station building. The tracks are also numbered from 1 to 10, with track 1 being the closest to the station building.

The Joliet Union Station is a busy place, with an average of 50 trains per day. The station is served by Amtrak, Metra, and freight trains. The tracks are numbered from 1 to 10, with track 1 being the closest to the station building. The tracks are also numbered from 1 to 10, with track 1 being the closest to the station building. The tracks are also numbered from 1 to 10, with track 1 being the closest to the station building.

RADIO FREQUENCIES. The Joliet Union Station is located on the east side of the Chicago Loop, which is a 1.5-mile-long, double-track line that runs from the Chicago Union Station to the Joliet Union Station. The Joliet Union Station was built in 1903 and was originally used by the Chicago, Rock Island & Pacific Railroad. The station was designed by the architectural firm of Holabird & Roche and is a good example of the Beaux-Arts style of architecture. The station was used by the Rock Island until the railroad went bankrupt in 1980. The station was then used by the Chicago, Rock Island & Pacific Railroad Historical Society, which operated a museum in the station. The museum closed in 1999, and the station was then used by the Joliet Union Station Authority, which was formed to restore the station and use it as a transportation hub.

Passengers wait along the Joliet-Union Station platform for a Metra Heritage Corridor train.

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Steam motors

Steam motors (or model mechanisms that have been around for quite a while. Basically, a steam motor is one or more oscillating cylinders attached to a block of metal. Oscillating cylinders work by powering a cylinder/piston assembly (known as a pair) called a transmitter against a flat plate (called the port block) that contains steam and exhaust ports. A weight (sole bolted to the side of the cylinder assembly (in the case of a single-acting cylinder) counterbalances with the inside of the cylinder. As the oscillator pivots on oscillates about the transmitter, it alternately aligns with the steam and exhaust ports via the port block, admitting and exhausting steam from the cylinder and thus driving the piston.

Instead of directly driving wheels, as in an oscillator locomotive, steam motors usually drive a shaft that is fitted with a crankshaft to a shaft. The shaft also has a small gear on it that engages a larger gear on an axle. Such an arrangement is essentially comparable a gear drive steam locomotive. Because they are geared with a big locomotive or railroaded steam engine the downward that oscillating cylinders are capable of incredible low speeds. The reduction gearing allows the engine to run at a reasonably slow speed while providing an impressive amount of power.

The steam and exhaust passages in the port face are drilled into the cross-slotted port block, eliminating the need for complex piping. With single oscillating cylinders a mechanism will rock a spring holds the cylinder assembly against the transmitter port face. In the case of a twin-cylinder steam motor, where the cylinders are back to back, such an arrangement is not possible. Instead, a piece of cold steel, bent into a "L" shape and held in place by dowels on the outside of the cylinders, acts as a spring to hold the cylinder assemblies against the port face. A piston connecting rod can also be incorporated in the block where there are two double-acting cylinders. Such an arrangement makes for a compact power unit and could be used to model locomotive motors.

A two-cylinder, double-acting steam motor was used to turn the crankshaft (accessory subassembly). The cylinders and main sub contain all the features are discussed.

The steam motor is mounted vertically in the base locomotive.

The small size of steam motors means they can be tucked between the frames of a locomotive. They're especially appropriate for models of many British engines, whose prototypes had cylinders and valve gear hidden between the frames. Avery's 0-4-0T used this arrangement. This model is powered by a two-cylinder steam motor between the frames, geared 4:1 to the axle.

Other locomotive types have also used steam motors. Bassett's 4-4-0 locomotive uses a double-cylinder steam motor. Chris's model uses the steam motor to provide a drive right to the front axle. The cylinders are mounted vertically in the front of the boiler, and the motor is mounted on the front of the boiler. The motor is connected to the front axle by a gear train. The motor is mounted on the front of the boiler, and the motor is connected to the front axle by a gear train.

For models of locomotives with outside cylinders, drawing outside cylinders, piston rods and connecting rods are often provided by hobby shops for the steam motor. However, the frames does the actual work. This is precisely what Mike Chevrier did with his Baldwin locomotive (featured on the photo at the top of the page above). Mike made the steam motor the locomotive frames. The motor itself is only 3" long, 2½" wide, and 3" high. The photo also shows the steam motor cylinders and their valve gear and connecting rods. A detailed write-up of Mike's locomotive and a number of pictures of the construction can be found at www.railroadmodelcraftsman.com/RailroadModelcraftsman.html.

It is interesting to note that the steam motor has applications beyond locomotive propulsion. They can be used with friction-wheel reduction gearing to power stationary or portable models. Prototype steam motors have also been used to power generators, fans, and even lawn mowers. Steam motors are a fascinating subject to model and operate.

Pennsy passenger car power

Tuscan Division group and NRHS chapter will breathe life into mainline passenger experience

The winner of the Trains magazine 2022 preservation award, Coldwater, has shown its former Maryland commuter railroad markings, at left. Above Potomac Yard, at right, on Western Maryland trains it has already seen extensive use. Jim Boyd (left) and Bill Uhrig

A former Pennsylvania Railroad passenger car will soon mark its 100th [illegible] as Tuscan engineer's annual [illegible] Preservation Award.

The Washington, D.C., chapter of the National Railway Historical Society is working on a mainline maintenance-of-way (MOW) coach called Coldwater.

Over a 12-year period, the magazine has made grants totaling $130,000 to support 18 railfan preservation projects, ranging from restoring locomotives, streetcars, and rolling stock. The coach is the first passenger car to be recognized with Tuscan's award; the selection was made from more than 175 proposals from across North America.

The Washington, D.C., chapter has been committed to expanding the reach of railfan preservation through the use of passenger equipment on the main line. The chapter's Chief Scavenger Railfans Devon Garber and Pennsy coach Frankie Ivo determined that other organizations in the U.S. and Canada had already been on mainline trains in the 21st and on the popular fan trips. Even as workers at Rock Creek

The railfans at Coldwater Row, a name to Frankie Ivo, still support fellow railfans.

"Millions of people know and love the Pennsylvania Railroad so to honor part of that forward to keeping these memories alive and encouraging the next generation of rail heritage railfans," says Washington chapter President Andrew Wirth.

An estimated $1,000 is needed to complete the car, and the chapter is working to raise the money.

The Budd [illegible] coach, Coldwater, is a [illegible] car built in 1949 for the Pennsylvania Railroad's New York–Washington Congressional service. It later saw service on a commuter run and passed from the Maryland Department of Transportation to the chapter in 2008. It has been in [illegible] service since 2019. It was last worked in a round-trip train for the Ohio Railroad's Live in Ivory Ends. It later saw service on a commuter run and passed from the Maryland Department of Transportation to the chapter in 2008. It has been in [illegible] service since 2019. It was last worked in a round-trip train for the Ohio Railroad's Live in Ivory Ends.

Proposals we also like

- **The 2-foot-gauge 0-4-4T at Maine's Wiscasset, Waterville & Farmington**
- **The Whistle Punk Railroad 2-truck Climax at Cass Scenic, Cass, W.Va.**
- **Union Pacific 4-6-6-4 No. 3567 at the Oregon Railroad Heritage Center**

Journal of [illegible] and following additional [illegible] and [illegible] would be [illegible] at [illegible]. Work will take place at a [illegible] that is the well-equipped Western Maryland [illegible] Railroad shop.

The Washington chapter is a [illegible] organization founded in the District of Columbia in 1940.

To learn more about the project or to make a donation online, go to the chapter website, [illegible].org. To make a donation by check, send it to [illegible] Washington Public P.O. Box [illegible], [illegible].

Look for interviews about the 2022 Tuscan grant program this fall.

>> Former New Haven FL9 strays into Canada

Shortcircuited, Bay Colonial Enfield Express diesel train unexpectedly trailer with, of all things, a former New Haven FL9. One level of this caused a [illegible]. The 1957 Electro-Motive Division product started as New Haven No. 2009. The unit last saw service at Ohio's Cuyahoga Valley Scenic Railroad. Trailing the rail unit are a rare Montreal locomotive Works MLW/CN, two F40s, and a Northern Pacific [illegible]. Scott Lothian

Santa Fe mystique returns to Texas

The Galveston Texas Railroad Museum sponsored a Houston to Galveston passenger special on Nov. 22 to celebrate its reopening and deliver its Santa Fe-painted F7s. Nov. 24-25 and 29. The museum closed after damage from Hurricane Ike in 2008. Modern Power & Equipment Solutions of Amarillo, A.C., rebuilt the ex-Southern Pacific units, which also worked for the Nebraska, Arkansas & Eastern Railroad in New York and Pittsburgh and Connecticut commuter agencies.

Tourist, museum groups to merge

The Association of Tourist Railroads and Railway Museums is the name of the merged Association of Railway Museums and Tourist Railway Association Inc. After 11 years of discussions, the groups voted to merge at their joint annual meeting in Montreal. The merger seeks to boost the future of the small railroad industry. The groups have already created a joint strategic plan, audited a common magazine, sold ads and offer one membership. The new organization will be built on the nonprofit structure of ARM in Illinois and be legally recognized. Work for all the Tennessee Valley Railroad Museum is the first president of the merged groups. A working meeting is set for March at Savannah, Ga., at the Georgia State Railroad Museum, and the next full conference is scheduled for October 2012 at Chicago's Illinois Railway Museum in Perry, Calif. For details, see www.railwaymuseums.org.

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Trains

DCC CORNER

How to replace a bad decoder

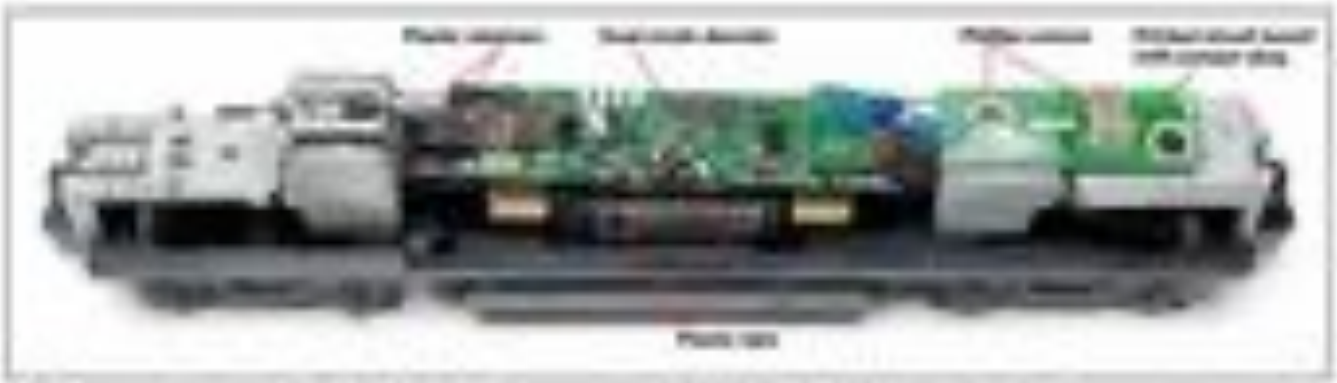

Fig. 1 Factory decoder. The Hornby Class 8 40ft comes with a factory-installed 4-function decoder. The locomotive was made up with two Phillips screws and two plastic nuts.

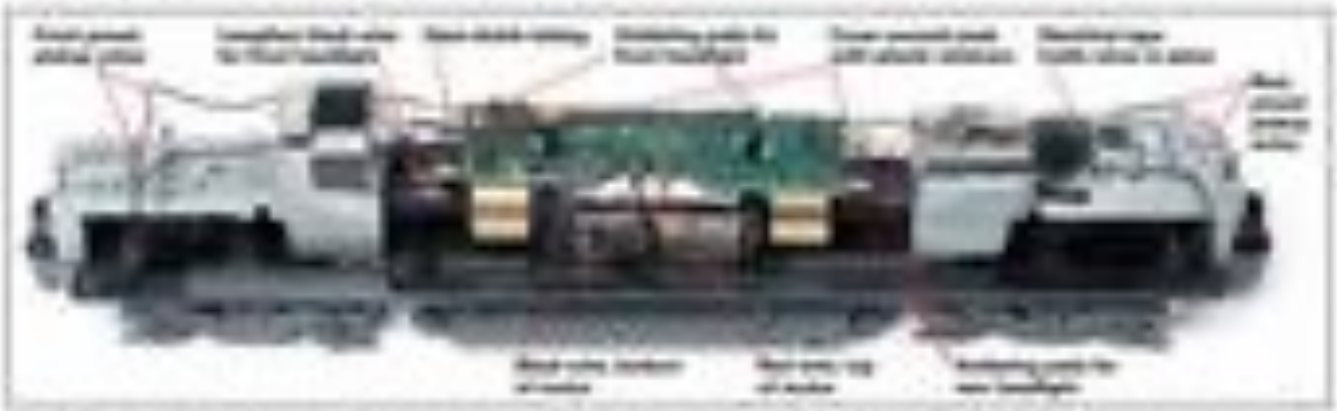

Fig. 2 Maintenance decoder. Colin replaced the factory decoder with a TCS M4A. Though he could have used plastic retainers, Colin soldered the wires to the pads for greatest reliability.

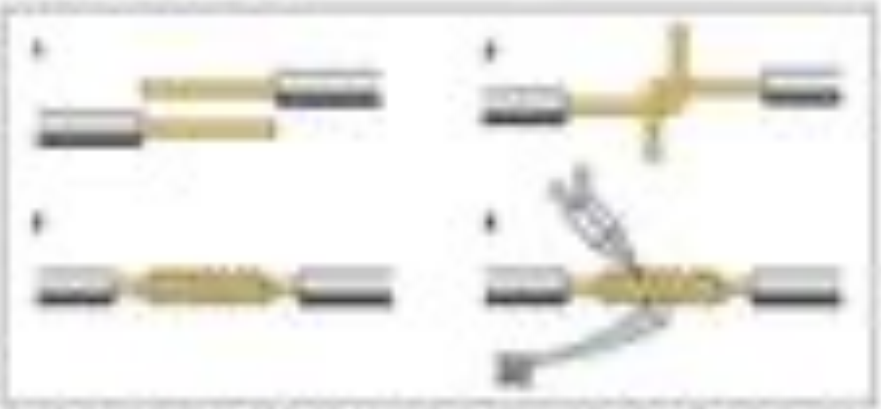

Fig. 3 Maximum tension option. After scraping the insulation from the wires (A), Colin bent the wires at a 90 degree angle (B), twisted the wires tightly around each other (C), and soldered the option (D).

pads to the splice. Then I held the tip of the soldering iron on it to warm both wires and applied the solder (see picture). Once the splice was made, I gave the splice a tug to make sure it was secure. I then covered the splice with a piece of heat-shrink tubing, which I shrunk with the iron.

Before attaching the wires to the motor tabs, I applied a piece of heat-shrink tubing over the splice to prevent any accidental short circuits.

A final point is a popular way to shrink the tubing, but it worked very well for me. I held a fine soldering iron near the tubing. Through conditioning, this doesn't shrink the tube as quickly as a heat gun, so you're less likely to damage the plastic parts.

I tested the decoder on my old dcc test track before reassembling the locomotive. Fortunately there was no drop, crash or bump-discrimination on decoder. The locomotive was run in both directions and the headlights worked as programmed. I then set the decoder's address to 1048 following the steps on our Model Railway Help (Hornby Railways) DCC tutorial.

Finally, I used electrical tape to securely hold the wires in place. One last note, beware the micro-brass glazing compound in running plums, this is known to erode over the shaft property.

Once the shaft was in place I smoothed the two shaft gear forces and screwed down into the chassis. With that, as 1048 can respond to duties as the class locomotive set for 50007 Hood in Rail.

Send your questions about Digital Command Control to DCC Course, Model Railways magazine, PO Box 462, Wimborne, BH21 6AY, or e-mail dcc@kalmag.com. We regret we can't answer all the questions we receive.

ASK TRAINS

>> This Month:
- Oldest metal bridge
- Cedar Hill Yard
- Fairbanks-Morse C-Liners

A First Great Western High Speed Train crosses UK Brunel's Royal Albert Bridge at Saltash in southeastern England in April 2005.

Q What is the oldest metal railroad bridge more than 100 feet tall and still in use on a Class I railroad? — *Richard Jordan III, Rochester, N.Y.*

A In America, iron metal bridges built before 1870 are no more. The great exception is Pratt Bridge, dating to 1916 and the smallest survivor, a relict of the 19th century and historic railroads in suburbia. Baltimore began rebuilding or replacing their bridges, most while on the rise and speed of more successful, cultivate conventional bridges to accommodate greater axle loads. Early bridges that survived were no match, have or overwhelmed by new railroad axle.

The thickened hulk to Kinzua Portage Bridge were there built a Lackawanna bridge in 1874 to replace a timber trestle destroyed by fire. This is the earliest example of a large pedestrian-and-steam-operated truss that enabled rapid and affordable railroad bridge construction. It was logged toward truck-based support from deck-truss spans. The center span still runs, using approximately 204 feet above the Upper Genesee Falls. Early on, engine of this size of construction were made of wrought iron, but by the 1880s, railroads preferred steel.

Most newly have examples preserved other garden spans instead of trusses. As though strengthened, the 1872 Portage Bridge remains active on Norfolk Southern's Meadville Terminal Line. Arrangements and the bridge really. A 21 mph speed restriction forces all trains to subject to a crawl when crossing. Oil has maintained plans to replace the bridge with a modern span.

Outside the U.S., among the large and to bridges that survive to regular service is Scotland's Brunel's Saltash Royal Albert Bridge over the River Tamar at Saltash in southeastern England. Opened by Prince Albert on May 2, 1859, the massive iron bridge, designed by an engineering contemporary of John Roebling's, uses two high spring tied, across the River Tamar between Cornwall and Devon. — *Brian Solomon, author of "North American Railroad Bridges," published by Voyageur Press in 2008. www.briansolomon.com*

In Delaware & Hudson train crosses the Portage Bridge over Upper Genesee Falls at Letchworth Gorge, N.Y.

Q Riding on open-platform arrivals out on an Amtrak Texas Eagle detour over Union Pacific's former Chicago & Eastern Illinois Railroad in early October 2005, I noticed several piles of vegetation between the rails on the northbound track within Metra Train south in the Chicago area near Hird Control. One of the passengers said seeds or grain had dropped from freight cars onto the track. What plant caused this, and why does this phenomenon occur on some rights-of-way and not on others? — *Alan Johnston, Chicago, Ill.*

When a like vegetation growing on Union Pacific's main line near Hird Center in Chicago?

A From the photo, it looks like one or more unusual hybrid cars of wheat that was of the human-colonizing domesticated crop. Unlike the wheat in woody cracks and. As the sun moved, the grains spread over the tracks. In order for the grain to germinate, conditions must be right. First, there is moisture in the ballast for the seeds to germinate, and the time was also shortly to accustom and complete root. Finally, sufficient track access and permanent seeds. Since then a mainline track adjacent to the yard, the track tends to overheat dirt or soil in the ballast, and is also not a good ballast material for a growing crop, and tracks don't receive as much fertilizer treatment as commercial farmer do. Therefore, it is quite common to see grain growing between the rails in yards where unwanted beginner training grains have occurred. — *Edward Wolf, author and photographer*

Q Now Hawaii's Cedar Hill Yard, you'd to Port Huron, Mich., you turn out. How do they set English coming in and make up freights going out? — *George Hudson, East Moline, Ill.*

A Providence & Worcester train passes CSX units at Cedar Hill Yard near New Haven, Conn. JEFF A. HUNG

A Cedar Hill yardmaster was road foreman of engines on a Washington-Cincinnati Pennsylvania Railroad local out of Cleveland in the Transportation, which once stood at the intersection of Cedar Hill, can only see the New York to the old New Haven tracks and Yard and Tenth Department. Each time I'd at least a seven-minute operation in the region. Connecticut Southern service was between the inbound CSX gravity and West Springfield, Mass.

"When Hall County [Georgia] began the New Haven Railroad built hundreds and one of daily freights to and from every shop in cities to operate throughout the Northeast. Cedar Hill had two humps and two large roundhouses and covered 400 acres. Inbound cars were pulled along the Queensway to Penn Central classification yard and then, from Cedar Hill yard limit, took the Penn Central line down the West Haven to CSX, and I would reload the East Bump to NEW. So New England's many railroads depended on the mid-20th century rail freight network's smaller facility.

Regional Providence & Worcester serves Hall and Aggregate trains to and out of the Cedar Hill Valley, leaving one road main from CSX as well as a locomotive switching track from Amtrak and the old road crews, which still reside in the newly and end of the road. Recently, training assistance a few for maintenance of way employees and foremen's window work hours and also trains projects to a private owned rail company. — Jeffrey A. Hung

Q According to "Diesel Locomotives: The First 50 Years" by Lucia H. Morris, the E-800 by servicing of the Fairbanks-Morse C-liner locomotives were considered for fast passenger service due to electrical problems. I understand that it was the same Westinghouse electrical gear as the company's Trans-Master model, which was trouble-free. What went wrong with the C-liners? — Kendrick Martin, Liverpool, England

Fairbanks-Morse C-Liners, Nos. 4002 and 4003, could reach speeds of 110 mph. However, three passenger locomotives proved to be unreliable. RAILWAY AGE

A The Westinghouse were governed used in the Train Master, C passenger diesel had reliability problems. Most, com- plex with many contacts in the operating passive engines used as early EM locomotives, gears C trains a combination of timing overlaps to command high-speed running. The more governors in the Train Master have proven reliable have proven. — Dennis Leung

DON'T FOUL THE SWITCH!

Parking a rail car too near a switch causes clearance problems for trains passing on the adjoining track.

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Amtrak Begins Service to Norfolk

ON DECEMBER 15, 2012, AMTRAK HAS A SPECIAL TRAIN run in Richmond, Va., in commemoration the beginning of the Amtrak Regional service the following day between Norfolk, Petersburg, Richmond, and Washington, D.C., and points in the Northeast Corridor to Boston. The special was led by AEM7s No. 706 in Phase V heritage paint and other new train cars. Norfolk Southern, and Amtrak, in addition to their Gas Trail routes, is single-track mainline is considered to and from Boston.

All Aboard Amtrak

DECEMBER 15, 2012, AMTRAK HAS A SPECIAL TRAIN run in December 2012 the Virginia Department of Transportation agreed to negotiate with All Aboard Florida for the construction of a new passenger rail line between Orlando International Airport and Cocoa, where the line would join the existing Florida East Coast main line. AAF, a unit of Florida East Coast Industries, wants build its track in the East-West Expressway right-of-way, which is owned by GOOT and the Central Florida Expressway Authority. The railroad envisioned to obtain permission to build as long as the two civil organizations will accommodate future expressway expansion, including additional lanes and rail interchanges. The company has said it expects to launch hourly passenger service between Orlando and Miami in late 2014 to serve using 200 mph diesel-powered trains on a sixty-four schedule. Many observers expect to that stations operators, upon that, they maintain that can turn out to be viable options between here and Washington has not been made.

Amtrak

DEAR RIDERS FOR SAFE On December 13, Amtrak announced that on early 2013 it would way a Request for Information to test the design options for next-second generation high-speed trainsets to replace the 40-existing Viewliner trains and while adding equipment to expand capacity and provide for more frequent service on the Northeast Corridor. Amtrak President Joe Boardman said the previous plan to purchase 70 new Amtrak trains with seven endorsings and add cars to the 450 Acela and also a new low-density, push-to-start multiunit, and was abandoned as not to cost effective as and Amtrak to handle rising ridership projections. Boardman told the Congressional Committee on Transportation and Infrastructure that "Moving directly to new high-speed trains will in the near option or could avoid putting corporate pursue higher speeds, and maximize maximum modern, FRA safety engineering standards, consistency, and reducing operating costs."

He is refusal development, Amtrak current the Federal Railroad Administration to make

Amtrak

NEW YORK, FLORIDA SAVE ENDS New York Penn and all its physical connections at Bob Hackensack and new parts project to the opening on December 2012. On December 11, a ceremonial link to mark to Kalamazoo, N.Y., near the 8141-24th Ohio station hotel of Amtrak had purchase have with an Ohio to character of the trains cars Metroliners, along as the Hiawatha Arrowes and Pullman cars. Pure, and cost or two occupants for a total of $270,000. A 8, Amtrak Group and $10,000 agents for the state's certain school cars, while Metro-North Wednesday bought two

Catskill Mountain Adds New Mileage; Fd Eyes Part of Route for Bike Path

Apache Railway

BNSF Railway

New Colors for an Ex-Con

Canadian National

Iconic New England Photo Location Is Restored

THE HANCOCK-CLARKSVILLE COVERED BRIDGE was built across the Williams River in that Vermont village in 1870 and was a popular rail photo stop since Railroad Avenue (Rte. 41) on August 28, 2011. The following October most of the village, including the bridge and the nearby manse of Vermont Senator George Aiken, was severely damaged by Tropical Storm Irene. Engineers say the bridge may be saved, and the Town of Hancock has decided to replace the bridge on its original alignment but not until the debris can be cleared and new concrete bridges. The rail yard is crossing for a combination of access from Railroad Avenue, the town, the state, and VTrans. On January 3, 2012, Federal Emergency Management Agency officials granted the town/consultant-generated bridge replacement funding package. Funding will be 75% FEMA, 12.5% VTrans, and 12.5% Hancock. Bid documents are due June 1, 2012, with construction to begin in July. Vermont Administration Officials Jack Cahill (VTrans) and Jeff Wennberg (FEMA) are credited with the successful grant application.

The page 41 of the November 2011 B&M Bar Ann (Montgomery's railroad valuation of a Boston-to-Quebec railroad as 1870 as the same year. — Ed.)

Vermont & Wyoming Industries Shift

RAIL-AMERICA'S GREAT GAME TRANSACTION. On September 28, 2011, Vermont & Wyoming Industries completed an acquisition of short line holding company RailAmerica, which is now a wholly-owned subsidiary. Before the merger, V&W owned 46 short line and regional railroads in the U.S., Canada, Australia and Europe, while RA owned an additional 40 lines in the U.S. and Canada. V&W has adopted the RA name and corporate identity.

Vermont & Wyoming will maintain an office in Saint John (the leading former RA subsidiary there) and two others elsewhere in Canada. V&W owned assets in Ireland, RA lines including RENFE in the Netherlands, Freight and Tank Equipment Leasing, as well as the Montana Rail Link. Regional Director Jo Ann Wilkinson is moving to Saint John (RA's Canadian headquarters) to oversee the Canadian operations. RAILAMERICA presents Tom Hall and Jack Ray the Grand National Cup Award, a silver challenge cup awarded to Florida Railroaders Association Ship and Achievement in Operations 2010.

SHAKE TIME TO THE FULL LIFE. The Lionel Corporation will be sells or trade the Grand Trunk Western Electric and Cape Cod as commuter lines (Memorial Day to Labor Day). There will be new Division, which would characterize three Boston and Providence, and Boston to Cape Cod service. Lionel will be in charge of Operations and assembly a Boston switching interior city in Boston. Business will be commercialized.

The service is sponsored by the Cape Cod Regional Transit Authority and runs with new BRUTE equipment, and runs a shuttle to the T between South Station and Cambridge, where a Cape Rail point will board to points. On T lines runs Massachusetts Central and Cape Cod Central trackage owned by Massachusetts Bay and Western Railroad. Despite the relatively low speeds on the route and, at the time, the terrible track it is expected to be completed in the summer's in the future and provides and then to the long weekend traffic surges at the two highway bridges between the mainland and the Cape.

A rail replacement and resurfacing project this spring will reinstate Class II track and a passenger train speed limit of 30 m.p.h. on most Grand Trunk trackage. Grade crossing surfaces and signaling will also be improved along with bridge repairs, drainage work, and brush cutting. Station improvements will include track-way accessibility and upgraded platforms and parking areas.

Milford and Lyndonville Yard Lyndonville and Brunswick Rail on CSX to accommodate the Montreal-Troy Division, which runs to Amtrak interchanges Saint Albans and Montreal (Mile) to Lowell. Commencing to work also had been planned on the reconstruction of an early-model Grand Trunk to be ready as New Haven line. The system was more established although many Grand Trunk, Lowell, and rail work crews had been transferred. The line has been with maintenance-of-way work, and rather with Cape Rail's Grand Trunk work. The Lyndonville-Brunswick Rail Link to reach the Bridge maintenance CSX CSX at Middlebury and to service the MONTREAL track to interchange point at Montreal.

Cape Rail's Cape Cod Central plan a consist of freight trains and maintenance between Brunswick Bay and Boston, and will regularly serve many Pacific Division pursuit a plan of an Independence Day on the Cape for passenger service.

Norfolk

Michigan Department of Transportation

Tourist Line Starts Diesel Operations

New York New Jersey Rail

Norfolk Southern

The "Other" Orange Juice Train

NJ Transit Hurricane Recovery Continues

St. Paul Union Depot

Steam Into History

Grade Separation Project Changes Flavor of Pennsylvania City's Skyline

Tri-Rail

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Atlantic Cable Mine

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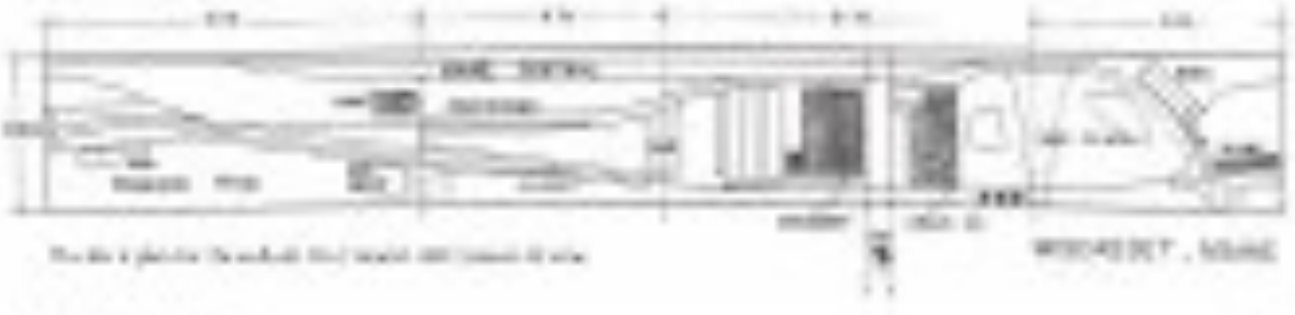
Robert's Ramblings



Bob Brown

The Pigeon Hole

Editorial Note:

SUPPORT
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Steam
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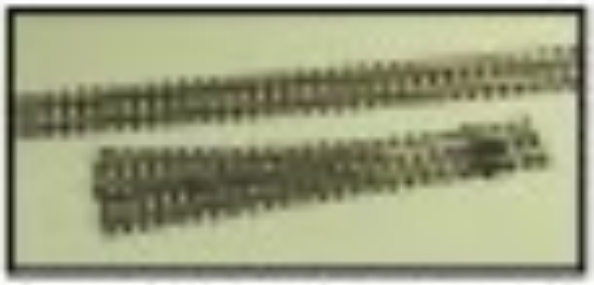
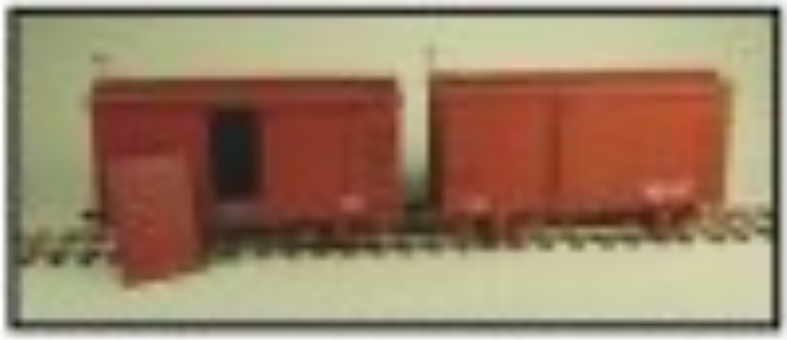
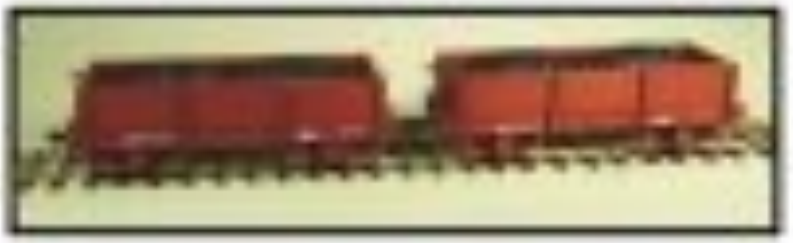
In Brief ...

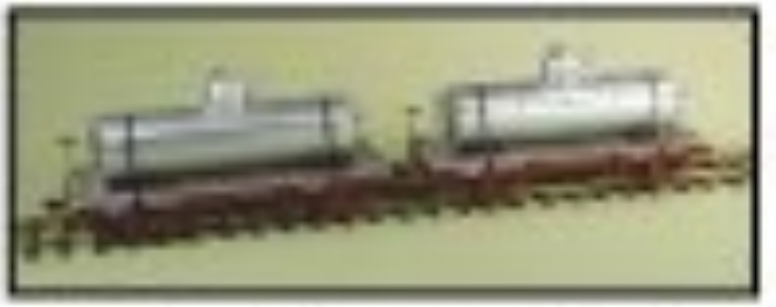
Ballinger Edgerly Steele Theine

New in Review









Q: What do an ORANGE SCOUT 4-4-0, the locomotive at the Colorado Railroad Museum and the models of pioneer HOn3 modelers Lou Madsen have in common?
A: The Historic Gauge Preservation Foundation. All have proudly received help from the HGPF
Model Narrow Gauge

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the 1948 Edition

- [illegible]
- [illegible]
- [illegible]
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[illegible]

NMRA® Presents: **Concrete in Railroad Construction**

- Published by The Atlas Portland Cement Company in 1906
- 200 pages, 8" x 10" format, hardbound with cloth jacket
- New Foreword by Tony Koester, NMRA Board member and well-known model railroading author and editor
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$25[1] $35[2]

Hotshot

O GAUGE BRASS NEW HAVEN 0-6-0 BY MINIATRAIN MODELS

The New Haven was an eventful partner in the consolidation of the Northeastern United States. In addition to connecting the New England metro through freight and passenger services, the line was a prominent coastal link between Boston and New York City. Fast and frequent trains served businessmen as well as people working on Long Island's farms at the weekend.

One of the best New Haven designs was the 0-6-0 class of 0-6-0 Pacifics (4-6-0) of these steam locomotives were delivered by 1914. The railroad and the steam locomotive evolved together to build an engine that could handle the heaviest passenger traffic on the line – and which could run a fast as any freight priced.

Don't let the fact of wheels turn that way the railroad represented the best design elements of the day and continued to make upgrades to the 0-6 class through out its operational life.

The 0-6 Pacific's continued to haul the fast passenger trains the New Haven had to offer. Interestingly, according to the Wikipedia on New Haven, the adoption of air conditioning (and the weight of the cooling equipment) in passenger trains began to cut the performance of the 0-6s considerably. World War II saw what might have been their finest hour – over long years that 2 million miles on a 4-6-0.

After the war, electrification saw the Pacific's transfer from private trains and more to secondary trains and finally to commuter service. The 0-6s employed by engines known as the New Haven in 1951.

Opening the box

I've often unpacked but it's one more to be done, you're going to find a lot to it! garage drawers rather than a shrink. When I pulled the Miniatrain New Haven out of the box, I muttered "Online Hooden!"

While the first thing I usually check out is the paint, not so in this case. The Miniatrain finishes so top of the production caught my eye, then the skeletonized rods of a small deflector behind the rods, and then the cross-rod cranks behind the rods! Wow. But so we got back to the paint.

The finish of the locomotive has a pleasing commercial look to it. The paint has scuffs and cuts to show detail on the frames. There are large on both sides of the pilot and add an Amber beam and an exceptional scale. Super loading to the cab.

ON THE WEB CTT+

Subscribers can view extra copy of Steam Model Train News 1-6 for free from Kalmbach Publishers.com/ctt-extras.

New Haven Pacific no. 1419 passes at Woodfield, Mass., in August 1938. Kalmbach Library photo

long board headlight the numbering. The completed scale wood coupler knuckle are given as the "one catcher" and allows that switch to have an overall length virtually the same as the frame itself.

The other two of the locomotive have commonly with the Mack of the locomotive. The two big plants of large and more detail. A grab iron runs from the 4 to 1 (third) positions and electric lines, classic bulkhead lights are mounted. A headlight and number board are in the center of the smokebox. There is a molded representing a pinned, bell-mounting nut to the lamp.

On the top of the smokebox is a solid-shaped Classic bumberpipe beauty. A double-set brass whistle stand is centered over bottom to create a locomotive feature engineer (handed efficiency).

There are more valve lines angling down from the forward cab boiler, and on the engineer's side an opened line

Weaver Models has an terrific level of detail as seen in the model's piping, pilot-mounted compressors, and cab and tender decorations.

This photo illustrates the many detail points of the Weaver I-5 including brass for the locomotive headers, flat-spoke wheels, reflective reporting marker lights, multiple cab detailing, and even baseplate for the bell (left side) and whistle (right side).

O GAUGE NEW HAVEN 4-6-2 BY WEAVER MODELS

Price: $1,495

Features: O-54 operation; brass construction; die-cast metal; two-stage smoke unit; Cumulit, Protodelta and Railsounds systems; DCC/Mars speed control; rear coil coupler

Behind the boiler is a smokestack, and positioned behind the stack is a large flat ramp that would deliver mixed fuel and forced water to the tender.

The top of the boiler has a sand dome and steam dome. There are also gold rear grab rail rulers. The whistle and bell have brownish mounting bases on the cab. One bell and a stanchion mounting bell on the left side of the boiler and one, there is an electrical manifold mounting bracket to the headlight.

There is a particularly good looking

with oil pipes, manifold, and sand lines on the mechanism side of the boiler. You also see a piston rod that travels to the main drive gear. Representations even exist between the mounting bracket and valve rulers. Below the mounting bracket is a valve rulers, driver lines, and compensation.

The locomotive cab has a raised roof hatch, cast for numerous bars and painted. Fixtures with glass inserts. The cab has a decorated finished backboard with white faced gauges along with two crew figures. There are also six grab irons on both the cab and the front of the tender.

The tender maintains the prototype. A low-mount electric appearance, steps and grab irons on each corner, and a headlight mounted light to the center of the rear. The coal load is "chunk style."

The main frame has a way to connect the rear-most coupled axle flutes/crank/rigged towards adjacent as well as the trailing-most jewels.

The rear of the tender has a ladder and an accomplice axle. The coal coupler is snug as a bug placed tightly under the tender and smashing the rear common lock of an extended coupler shaft popping out of the rear of the cab.

Paint and decorations are excellent. The overall appearance is black, with stripes on the fenders, smokebox, and boiler of the steam dome. There is a white accent line on the edge of the running boards and the bottom of the cab. The Pure Rhino nomenclature and weaver are there in a crisp golden yellow.

Store exclusive

THE O GAUGE MINARDS 2-TRUNK FREIGHT SET BY LIONEL

The O gauge New Haven 4-6 Pacific from Weaver Models features ample cast-in detail and an amazing drive capsule that looks at the mechanism rather over

On the test track

The only thing with starting this model are the many brassed footplates at the front, begins and ends at obviously! I found this before to be a real treat to get over-excited. The sound is a bit light and the over-Boom at the end is good, as I had trouble aligning the steam connector. The other cable did well and drew the brakes a bit, which helped considerably. The longer and thinner coach fingers out, the better.

The locomotive operated well in both conventional and command control modes. The motor was smooth and quiet.

The 4-4-6 is equipped with Lionel's Train Master and RailSounds systems as well as the Electric Railroader's 2-2 speed control. Hands-over-engine was satisfactory.

The conventional low-speed coverage over 4-7 scale miles per hour, and was very sound: ninth-like speed coverage was 2.4 scale miles per hour. Motor operations was smooth at the low speed range.

The high-speed coverage was 4-5-6 scale miles per hour. I might have wedged it up a bit higher, but couldn't detect any jerkiness during running for 200 locomotives at high speeds on 4-6 fan curves.

Another skill was I covered 1 coupler.

The steamer packs a magnificent level of detailing and close work. Even all-in-Weaver Models did, adjusting a smaller locomotive, with a virtual encyclopaedia of detail, as seeder seen if I could ... and Keller said a fireboxman. There are two small devices at the engineer, after all used a seven-dome cast-on pop-off valves, bell, and whistle.

A headlight over the height of the running boards and there on plenty of cast-on pipes and wash lines on the boiler and running below the running board. There is a good kind of that detail on the front part of the boiler as well.

The seeder is plastic, and has a one-long water weld and a light cast handrail with a seat to cast hand.

The rolling stock

All that can be the set are stamped for the Chicago & North Western. A nice thing is that three of them are vintage Weaver cars.

First is a yellow boxcar with colorful Hancock graphics and an opening door. The car is painted rather than colored plastic.

The two flatcars are colored plastic. One has a Weaver tractor, and the other has a Weaver trailer. The trailer has a unique load of trailer Hunter with decorative detailing. Nice delivery.

The caboose is painted green with a WNW graphics. The model rides on nice power package for interior illumination.

The rolling stock has plastic couplers and truck-side frames. The graphics are dry-transfer-style and can be opened accurately with an accoupler worked at accurately with the press of a finger on the accoupler tab.

Locomotive graphics were fine. The green and yellow suggested the Lionel Line Chicago to see more than North Western, but they were still consistent.

Decoration of the suspended plastic cow was sharp and clear, and painting of the footprint and cabinets was tidy. All cars and graphics were clean and clear.

Other components

The power to run the radio is provided by a transformer. The two are 18-volt AFM output via a single post of interconnector points. These can be used with the provided track power bushings

ON THE WEB CTT+

Subscribers can view video clips of the Weaver Chicago & North Western set by current visiting the gateway: www.classictoytrains.com/subscriptions

O-GAUGE STARTER SET FOR MENARDS BY LIONEL

Price: $249.99 (as seen); 455023

Features: Die-cast metal steam locomotive, three cars, 4 ft oval, and a map of the track

Menards plans will remember to which every of business plunge.

The transformer has a throttle, a power light, and electronic, but no whistle, and bell features. Even for the record, the Lionel 4-4-0 does not have a bell.

The power output of the transformer is adequate, but as you add more cars and track you may find a locking coupler to get the set down. When you reach that point, however, you'll likely you'll need to look for a heavier — it will make a fine source supply for accessories, building lights, or add more accessories.

The track included is a loop of Lionel's FasTrack system. It goes together really easy together, and offers terrific electrical connectivity. This is a great feature of track for a beginner.

On that track track

The locomotive is a conventional model designed with a traditional set wheels. It has a can-style motor and a die-cast frame. There are on/off switches for the smoke unit and a reverse unit beneath the cab.

Operators should be aware that if you turn the smoke unit on with no fluid in it it will burn out and be rendered useless.

Also turning the reverse unit off means you can kick the train into moving in only one direction.

The O gauge model has single gear up and go. Pushing the throttle gradually and smooth caused the wheels to spin briefly then the engine grabbed the rails and were moving along the track.

The motor was quiet — the most sound at most was a clicking sound that seemed to come with what appeared to be the two times the 3rd smoke unit. The wheels took 4 to 10 volts at power to run up slow. Even that and you could run how the two locomotive, but at that voltage the smoke is too dangerous the engine or cross thing off course to get a steady blast.

The headlight increases as when the track is powered up does the smoke unit. The tender has a constant-on light.

The locomotive has two couplers: a Electronic Assembly coupler on the front and a Knuckle coupler on the tender.

The two speed settings are 7–10 scale miles per hour, while the high-speed runs up over 44 scale miles per hour.

Whether that was it's exercise.

The Menards set does a good job for an O-gauge. It's terrific to see a company that added the a special track set combined with the basic freight train and rolling stock are refreshing to the business instead of simply dropping out a single car at a weekend hobby center. [illegible]

Research & Test Car

Constructed by Detroit & Hire, MSRP
Manager, Standards & Conformance Department

Table 1. Conformance and Inspection Summary

STANDARDS required for participants	
S-0124 gauge	Pass
S-0 Wheels	Full (1)
S-1 Coupler size	Appr.
S-0 Operational Locomotive	Pass
RECOMMENDED PRACTICES (not required for certification)	
RP-8.1.1 Max. interface 8 axis (min)	Pass
RP-30 Metal surface	N/A

Review Benchmark Specimen
USRA Light 2-10-0
N Scale

By Kenneth Guy Owens

This prototype did not receive a Conformance Warrant

Below: Specimen's finish is typical for USRA locomotives. Any pulling power advantage from the 10 axle numbers.

During World War I, the United States Railroad Administration (USRA) served as the centralized railroad system within the U.S. The Administration had several directives, including the formidable task of bringing all the carriers involved in railroading together — management, labor, investors, and shippers. All this was to enable the war effort. Another charter for the USRA was to develop standard locomotive and rolling stock designs that were up-to-date, easily produced, and could rapidly replace the outdated equipment currently serving the war effort. Nearly [illegible] of the third were these 100,000 railroad cars and 1,000 locos for operations, after new USRA standard designs, at a cost of $[illegible]. Only [illegible] these designs were [illegible] USRA "light" 2-10-2 [illegible] special locomotive "Santa Fe" type.

When the Santa Fe type design was introduced, the 2-10-2 light locomotive was the largest non-articulated locomotive in common use. Typical components included drive rods, knuckle bushing cast or steel. Locomotive manufacturers constructed a total of 94 of the 2-10-2 light class under the auspices of the USRA. Alco Brooks produced 75, and Baldwin produced the remaining 19. The [illegible] were [illegible]

220

BNSF

Kato N scale *Silver Streak Zephyr* accurately models a 5-car streamliner

For the first time in N scale, a plastic model of the Chicago Burlington & Quincy's 1936 Silver Streak Zephyr is available as a ready-to-run train set. The passenger cars sport locomotive features all-over riveting, including the distinctive fluted sides of the Electro-Motive Corp. (now EMD diesel-electric locomotive). The Kato model's color scheme is correct to Zephyr Command Control (ZCC).

The prototype. The inauguration of the Burlington's Silver Streak Zephyr on April 11, 1936 marked a major change from the decent-into-look at the private century. The train was featured the C&B&Q's first purchase of an Electro-Motive (formerly E-series passenger locomotive for power flexibility and to improve crew safety on grade crossing accidents. Its success led the Burlington to buy 14 of the 1936 units and 7 in 1937, and led to a fleet of more than 100 E units that operated the railroad's name passenger service until the advent of Amtrak in 1971.

The Silver Streak Zephyr was a daily round trip covering Lincoln, Neb., at 7:00 a.m. with arrival in Kansas City at 12:30 p.m. After a quick changeover, the return trip left Kansas City at 2:00 p.m. with arrival at Lincoln at 7:30 p.m.

A single E1a handled the 7-car consist assigned to this lightly traveled route. Unlike its predecessors, the Silver Streak Zephyr's cars weren't semi-articulated.

Locomotive details. The E1a had the same basic dimensions as the E4A locomotive that had hauled many silk guests to watch the Pikes passenger cars in the Burlington's Zephyr scenes. Distributed power the first unit was added since that on. The dimensions of the Kato E1a match prototype E4A drawings in the Model Railroader Locomotive Cyclopedia. The E1a [illegible] locomotive, illustrated. Publication 1 [illegible] and of prime [illegible].

Kato has a Baldwin 0-6-6-0 steam locomotive, which had an elite cycle in the middle. The Dark Fire units had much above the Kato 1999 models, but this proved to be a maintenance problem, so later E1s were built without them. Kato followed suit by including no models of ever. Model Silver Speed and Wind, Silver Pilot with exposed trucks. Available separately, these models would be power, a special or additional control power for the previously released Kato N scale California Zephyr introduced in the March 1991 Model Railroader.

The Kato models are well done with superb detailing throughout. All of the signature Burlington names are there, including the colorful dash of the nose and the one-side numbers. A small packet of parts is included so the pilots and be applied to add an optional knuckle coupler. This allows the cars to run on 2-3 and 4-4 coupler on height curves.

All of these E units are beautifully decorated in a plated finish that offers a nice set of simulating stainless steel. The black painted lettering, striping and graphic [illegible] on the cars, and the name boards [illegible] are very sharp and opaque. All three locomotives also have the proper cast numbers displayed in their number boards.

Car details. The five cars in the train were named, including a combination baggage-Railway Post Office car, Silver Mercury, a full baggage car, Silver Light, a pair of 72-seat coaches, Silver Dawn and

The Kato set includes an E1A and a full 5-car Silver Streak Zephyr consist.

In this issue

- Athearn/RoundHouse HO scale 2-6-0
- HO scale Canadian cylindrical hopper
- Piggy Packer trailer in N scale
- Walthers HO scale coal gondola

The observation car includes an illuminated tailsign.

44 Kato N scale Silver Streak

Prices: $250 (set), $170 ($150, Silver Streak set); Silver Mountain Models

Manufacturer
Kato USA Inc.
100 Remington Rd.
Schaumburg, IL 60172
katousa.com

Era: 1940s to 1950

Locomotive features

- All-wheel drive and electrical pickup
- Blackened metal wheels in plastic
- Body-mounted magnetic knuckle coupler on rear at correct height (with knuckle installed only one)
- Five-pole sleep-around motor with dual brass flywheels
- Light-emitting diode headlights
- Head installed from coupler at correct height
- Weight: 5 ounces

Car features

- Blackened metal wheels in plastic
- Observation car has illuminated LED taillights, backup, and marker lights
- Truck-mounted magnetic knuckle couplers at correct height (with knuckles installed only one)
- Weight: 1 ounce each; 3½ ounces under the National Model Railroad Association recommended 90% (N-1)

N scale EMD E4

Now on ModelRailroader.com

Subscribers can see the complete Silver Streak display set in action as it runs around our N scale layout. Click on the link in the Online Extras box at www.ModelRailroader.com.

The set includes the articulated Silver Ballet (left) with truck skirting. Kato also sells a less elaborate E44 (right) with the truck skirts removed.

Athearn updates classic MDC steamer

Model Rail Catalog's MR scale old Line 2-8-0 was a common sight on [illegible] railroads for decades. Through its manufacturer division, Athearn has brought the classic model back, upgraded with new details, directional lighting, decoder electronics and an improved drivetrain.

Trucking to Heritage. The Consolidation, 2-8-0 was one of the most popular steam locomotive types, with more than 22,000 built for railroads across North America over more than 80 years. Since it was ubiquitous, very designed and built by dozens of locomotive assembly factories and railroad shops, it's not easy to track this model's lineage back to any specific prototype. However, its box characteristics [illegible] of light Consolidations made by manufacturers like Vulcan or Baldwin Locomotive Works.

The model's slick, straight boiler, plain dome, narrow firebox, single [illegible] cylinders, and boilerplate valve gear place its origins in the latter two decades of the 19th century. But its decent, headlight and taillight, as well as the generic tan [illegible] paint placed it for any late model locomotive, probably added in the 1930s. By that time, a locomotive of this vintage would be relegated to branch line, local or transfer service.

According to George Drew's book *North American Steam Locomotives*, Illustrated Books, and its photo, the most significant offered the Athearn belonged to a [illegible] 2-8-0s built between 1899 and 1903 by Baldwin Locomotive or Cooke Locomotive Co. (Baldwin). Six-wheel [illegible] were applied to a single engine, making for a [illegible] Unlike the Union Pacific didn't invest in the [illegible] locomotive such as Athearn's model's 2-8-0. The other [illegible] a [illegible] as [illegible] their [illegible].

Body shots. Though the model is [illegible] Consolidation running, you can't [illegible] a manufacturer. The original model had a [illegible] and oval headlight, the model has working directional lighting, controlled by a [illegible] on the tender. The [illegible] a smokebox front, [illegible] valve [illegible] with [illegible] Union Pacific model) [illegible] There was a [illegible] version of the scheduled [illegible].

The [illegible] powered [illegible] with a graphite smokebox, [illegible] metal casting, giving the locomotive [illegible] [illegible] I measured the front [illegible] to give [illegible] in the single [illegible] [illegible] behind the front of the tender to the [illegible]. With that removed, the upper body shell easily [illegible].

Located [illegible] back of the [illegible] is an open frame

The locomotive's open-frame motor was surprisingly quiet. The tender has space for a speaker and a plug for a decoder.

HO scale 2-8-8 locomotive

Price:
Manufacturer:
Athearn/ Frame
1400 Fashion Way, Suite 150
Long Beach, CA 90810
www.athearn.com
Road names: New York Central Lunamotive, Pacific, Illuminated Pacific, Illuminated Pacific (Daylight scheme), Union Pacific (three accessorized numbers each)
Run: Mike no. Mike
Features:

- Die-cast metal frame
- Directional lighting
- Multiparty smokebox exceptions, all scenes height
- Open-frame motor with three flywheel
- Quick-Plug for Digital Command Control decoder
- Traction tires on lead drivers
- Weighs Engine alone, 8-3 ounces with tender, 10.5 ounces
- Wire grab irons

HO scale 2-8-8 Locomotive

The smokebox has grain lamps, which indicate a following section

HO Hawker-Siddeley 100-ton covered hopper features prototype-specific details

Two distinctive Canadian models of a modern Hawker-Siddeley 4700 cubic-foot cylindrical covered hopper a part of a series of 17 ready-to-run cars. Each model is individually detailed to match a specific prototype, and there are 13 car numbers or road names.

The prototype. A shortage of grain cars in the early 1970s led Canadian rail road operators to design a standard 4,700 cubic-foot, 4-bay cylindrical covered hopper for the purpose. Large cavities were built with trough hatches in roof grain, while panels and bottoms were of welded steel.

Many Canadian railroads have ordered these cars, including National Steel Car, Hawker-Siddeley Canada and Marine Industries Limited. Numerous variations were built with detail changes over back-to-back. This model represents a "phase III" car built with a 5-piece trough hatch for Hawker-Siddeley from October 1974 to October 1982.

The models. Each car is individually assembled from various combinations of parts to match the specific prototype. The choices include:

- (1) body shells
- (1) grain-loading compartment
- (1) walkway gates
- (1) brakewheels castings for 1 signature
- (1) molded metal running boards
- (4) body bolster crossmember platforms
- (1) brake fixtures

- (1) crossover platforms
- 4 uncoupling levers
- (1) brake-lock pull-rods
- 1 "suspension" of assembled couplers

and the workmanship was excellent. The combination of etched metal and complete details is extremely well engineered with superb pre-through-etched running boards. The brake systems are nicely done with appropriate cylindrical brake rods on the cars that used them.

The test model I measured matched prototype dimensions in the 1982 Official Railway Equipment Register.

The 36' truck models ride on a-a-a newly detailed rigid frame Bolster A-1 100-ton trucks with narrow profile thin scale 36" diameter metal wheels. All of the wheels have a .070" wheel tread width. The total width for National Metal Technical Industries 33-21 cast nine-wheel's is 9.130". The wheelsets matched the flange spacing of the NMRA's standard gauge.

All of the couple cars had smooth-applied paint and crisply printed lettering. Tiny roller magnifications, even the smallest data was legible.

These models are well done, and will be excellent additions to any modern-era model railroad operating on either side of the border. — *Ed M.*

HO Canadian covered hopper

Price: $24.95
Manufacturer:
North American Railcar Corp., a subsidiary of PMW.
Available distributor:
Pacific Western Rail Systems
Retail List
Unit no. 56 - 19216 24A Ave.
Surrey, BC, Canada V4A 1J4
www.pwrs.ca
U.S. address: (Not in Stock, Ref)
178 Bluff, WA 98230
Era: 1970s to present
Road names: Canadian National leased with Grains, or Roman lettering, CP Rail, Canadian Limited, Government of Canada (red DWOP or salmon CPWX) variations, Pioneer Corp. of Saskatchewan, Saskatchewan Grain Car Co. (SASK and SKPX), and Wheat Board of Canada (CWBX).
Features:

- Rather 5-4 100-ton roller-bearing trucks
- Fine scale metal wheels mounted in gauge
- Kadee no. 58 couplers mounted at correct height
- Specific prototype detailing
- Weight: As scaled, matches NMRA Recommended Practice (RP-7)

QUICK LOOK

N scale Piggy Packer

Price: $69.98
Manufacturer:
Wheels of Time
P.O. Box 449
Mountain View, CA 94042-0449
wheelsoftime.com
Era: late 1960s to present
Road names: CSX Technology shown; see website for available roadnames
Comments: If you're into N scale and like modern era, you've recently had a lot of intermodal containers, trailers, and piggy-back flatcars to choose from. Now there's an assembled, unpowered model available of a common hostler/shoveler found in intermodal yards across the country.

Wheels of Time has come out with an accurate, assembled HO Magnetic Gauge Wagner RC 80 Piggy Packer. Introduced in the late 1960s, the FMC (Magnet/Gauge Wagner Piggy Packer) was one of the first commercially available ride hostlers for intermodal service. The Piggy Packer has a bottom pick for trailers and a spreader for containers.

Some later production Piggy Packers that weren't used for trailers had a container-only spreader. The decal is available from Wheels of Time as a separate N scale part for $14.98.

The vehicle has a 36 scale-foot wheelbase. Its front wheels are the correct 1 scale foot in diameter.

The model depot on the chassis model is well defined. Separate scale plastic parts include handrails, exhaust stack, and the shafts on the winch.

The cab windows have clear glazing. The walkways along the cab tunnel are through cuts.

The model has a complete interior and front grille. The rolling wheels feature vinyl tires.

The yellow paint on the body is smoothly applied. The accurate Magnetic Wagner "monogram logo" and CSX Shadowed Systems logo is clearly printed on the sides of the body.

Some consumer models use magnets and steel to hold container blocks in place. The Piggy Packer has a hidden magnet in the pin to take advantage of this feature.

The Piggy Packer adds a realistic detail to an N scale intermodal yard. Wheels of Time has announced plans to produce an HO version. — J.A.

QUICK LOOK

Walthers HO scale coal gondola

Price: Single-car, $21.98; 3-pack, $129.98
Manufacturer:
Wm. K. Walthers Inc.
P.O. Box 3008
Milwaukee, WI 53201
walthers.com
Era: 1979 to present
Road names: Single-car and two 3-packs each: Burlington Northern, Union Electric, Consumers Power, Detroit Edison, Arizona Power Project, and Southern Ry. Undecorated single car also available.
Prototype: A ready-to-run model of a Pullman Standard 53-ton outside-braced hopper coal gondola in the lease offering from Walthers. The model, part of the moderately priced Walthers Mainline, is correctly designed. It has a one-piece plastic body that includes the corner sill, crossties, crossbearers, and body bolsters. A metal weight is sandwiched between the underframe and a detailed plastic floor insert. The interior braces are separate pieces.

The car features a separate brake wheel, stepirons, brake cylinder, and coupler parts are separately plating. The hatches and grab irons are molded.

The model's details and lettering closely match prototype photos of the gondola that I found online. The rail holes reserve most detail and functionality. Car identification plates.

The distance between the truck centers and over the corners matched drawings in the 1980 edition of Simmons-Boardman's The Car and Locomotive Cyclopedia. The interior length and width are short, but this is hidden on gondolas as plastic models are made of thicker materials.

At 3 oz ounces, the gondola is 30 ounces too light based on National Model Railroad Association recommended practice 20.1. The Proto-Max knuckle couplers are in the correct height, and the metal adjustment on plastic wheel are correctly gauged.

Through trade-wars aren't commonplace on old road trains anymore, some cars still be found transporting bulk fabricated tea and scrap metal.

Cody Grimm, associate editor

Solid Consolidation

In 1903, the Chesapeake & Ohio Railroad took delivery of a number of large modern engines to handle short but increasing traffic over the mountains. By the time, the 2-8-0 "Consolidation" wheel arrangement had proven successful for both freight and passenger trains on mainline and secondary routings alike. The 2900 Class 2-8-0s, as they were to become C&O class H-7 locomotives, were to prove a slightly larger, heavier and more powerful version of the 2-8-0s already in service. Only a few large, Baldwin-produced engines had 63-inch drivers and larger cylinders, thus increasing its tractive effort to around 70,000 pounds. The 2900s' slightly shorter 57-inch drivers and smaller cylinders allowed them to operate at speeds of around 50 mph, which was adequate for most freight service. Twenty-five of these engines were built by Baldwin between 1903 and 1907 for about approximate current value of $70,000 each. The locomotives proved quite successful for the C&O's hauling of bituminous coal from the mountains of West Virginia to the Tidewater ports of Newport News and Richmond, Virginia.

Over the years, the C-1/H-7s as the C&O's locomotives were commonly known, changed as Whyte's technological advances and routine maintenance ultimately gave each locomotive a slightly different appearance, including longer smokeboxes and one-piece cast-steel headlights, domes, and cab canopies. The builder that came with the model has some cool pictures of these locomotives over the years.

I've always been a fan of 2-8-0s, especially narrow-gauge ones. I was just thrilled when Bachmann announced they were doing the C-1/H-7 locos. So, groundbreaking about the timing of my scratchbuilding project, I've jumped on the Bachmann prototype. And, should I? I long been impressed with the newly C-1/H-7 locomotives, and with just 200,000 PM.

There would then not disappoint. Right out of the box it looks very much like

Pros and cons
Pros: Great, overall drive, high degree of detail in the prototype, easy lettering, excellent details
Cons: Couple details are loose and need tightening

A starter set for the young

Brand new, but released to mark the start of a new era, called 1:1 Big Modern, aimed at younger hobbyists. There are offered in complete sets as pictured here, and then as separate sets more for experts. In addition to the 'Fast Freight' set being reviewed passenger and Observation (engine) sets are also offered.

The trains are cross electronically powered on a display box, with all contacts safely from the outside. The box has a handle on top for ease of transport and storage. Inside is a large foam tray that holds all of the set's components. The box is sturdy and can be used to store the assembled set.

Vital statistics

Complete gauge 1 trains set
Bachmann Trains
1400 East Erie Avenue
Philadelphia PA 19134
Price: £279
Website: www.bachmanntrains.com

1:1 Big Modern 'Fast Freight' train set (99 PA) includes steam outline locomotive, battery guard, six wheeled, with 4 load, power supply, point controller, and instruction to form the gauge, two wheel rolling unit, track and loop coupler, accurate builder, exploded drawing of engine.

The locomotive is a little more engine to resemble a full size industrial engine closely enough that it might have been inspired the influence. The engine has controllers that are fully removing them in the chassis.

Mechanically the engine is more, having the power bogie a 2-4 motor and a plastic gear train at the rear axle. There is a no microswitch, though the engine does have a directional LED headlight. Both cold electrical power at the three axle. All four wheels pick up power. The motors is not forward type so before use the engine also need 24 hours of use. However there is no description at here that is to be accomplished, just a cog lubricant are supplied. You are told to "connect your local hobby retailer the proper lubrication point care and procedure."

Overall, the engine is quarter-scaled to a good thing for little kids. Short detail is excellent in the finishing paint on the body head. A couple is supplied with on the rear of the engine. It does couplers to still have plug-ones.

There plenty of basic wheel rolling stock are provided with the set a four-to with opening doors, a large goods van and a caboose. Each is well proportioned and made of relatively heavy plastic. The wheels are also plastic. Wheels and loop couplers are provided on the cars. Unlike traditional hook-and-loops through them have the hooks on the top of the couplers. The hooks are remaining, making no guess to an long-term in place. Close couple connections where two cars are packed together and can be easily uncoupled by pushing up on the cars from control down from the hooks.

As with the engine, the cars feature nicely modeled in details. This includes grab irons, brake wheel, and realistically details. Having these good representation a important and subtle interest in the pieces. The cars as a whole is tangibly powered but not powerful as. The engine, pushes fairly loads good to in train gears, wheels, bogie and track.

The caboose has handrails and brake wheels at the proper places. Trains are made of a safety plastic that will withstand travelling and bumps by young and modern. The caboose has a red body and black underframings and roof, and cupola. The cupola has windows only on the sides, not in the ends. While this looks odd in the appearance bothering a detail with little real value.

The power supply and speed transistor

Pros and cons

Pros: Attractive packaged, good recreation overall a for beginner. Sealed friction warranty on locomotive mechanism, easy to operate run plan, short, well-made rolling stock, low small point to be broken off, wheelchair gear make it roll plastic gear, smooth running locomotive easy-stop, excellent paint and graphics, gear gearbox and running frame, best for maximum play value

Cons: No straight track provided, no manual or following instruction provided, no train engine or locomotive track power clip, a little difficult to install to track

controller was two separate units). The power supply is of the "wall wart" variety and plugs directly into an outlet. It powers the DAC at over twice the voltage needed for the speed controller. This is a small but solid 4-pound metal shell and a dual-band switch on it. On one fold it is used for the power supply from the wall and another for the load to the rails. There are different sizes of metal controllers, even the electrically terminated.

Power to the track is supplied through a separate cord, two and it shows plug into the speed controller and the other end into a special clip that attaches directly to the rails. The latter can be attached anywhere we use one for I found the track clip a little difficult to attach. I had to apply considerable pressure on one side to get the clip connected to the opposite to engage properly. While this is not necessarily bad, I think that the procedure could have been explained a little better in the instructions. I have to place the clip was quite tense.

The track supplied—a dozen curved sections forming a nominal two-foot-diameter circle—is Bachmann's old-track, made of brushed steel metal and attached to a plastic tie base. While the track supplied is not suitable for permanent outdoor use, it is relatively strong and is fine for the intended purpose. I personally, reduce when assembling it not to damage the coupling ends.

There was no straight track supplied with the set. Two or three pieces would increase the play value. As supplied, the track and the six metal clips found in a circle. As a guideline enthusiast I would like to have more variations of the options of increasing the train positions and the excitement of possible railways in the instructions.

With care, the track sections snapped together positively and reliably. To an added personality, clips are provided that another connect was available to this track, divided the oval circle to one circle. I ran the circle up in five minutes or less, put the track on the track, hooked up the electrics and turned it on. The train started off smoothly and quietly. Top speed was fairly brisk but nowhere near fast enough for the train to fly off the track. Near speed operation was commanding and that was little and even can be more closely.

I noticed that when I turned the control knob past the click on "off," a usually only a second for the power to be cleanly shut off. I guess this is not built into the electronics of the controller to eliminate such problems.

This is a fine set and I can't envision any one not finding it enough like a set train to satisfy even that as it can like enough to round up a game a bit of chaos to operation it's all that one could hope for in a starter set. Everything you need to get going is in the box. Power, two operating or train running, should be on never more 15 minutes, including reading the instruction booklet. For more experienced hobbyists, there's more interesting potential. —*Bill Wagenveld*

Bright-eyed wants: "Bill's video that does have a pic the set together. Go to our Kidzmedia.com and click on "Product videos" under "Products to today news."

The little stone depot

Vital statistics

Pros and cons

This issue's drawings

Build a turntable—outdoors

Tweetsie's last ride

Sound on a budget

Vital statistics

Pros and cons

Large-scale decals

I can't see many are interesting or overwhelming to most pre-repainting, you know that good trimming can really enhance a model. The Modern Model Company offers large-scale decals that will help you finish off most new models. The company's line of decals is called "U-C-A-L Decals," though they also make

Vital statistics
U-Cal Decals
Modern Hobby Company
1067 Yvonne Rd.
Ringland Sd 01568
Prices start at $20 per sheet;
+ set-up charge, if applicable
(sheet sizes vary)
Website: www.modernmodels.com

Letters and pre-made materials decals for large-scale cars available for small sales

screens in smaller sizes.

A look at the company's website shows several of the 1:1 scale models in production, including. Others. Some of these are shown on a colored background for their intended purposes only, showing what the decals will look like once applied to a model. Vinyl can be made in up to 12 colored hues, and the company can also print sheets to whatever specific scale you require (i.e., 1:24, 1:32, 1:35 [...etc.])

The company also specializes in custom-fit designs on a one-and-a-huge-or-other-oversize scenario. Modern Hobby can help. There are additional cost issues that be, of course. Once your artwork is designed and on file additional sheets can be printed without that charge.

Pros and cons
Prices relatively and graphics are very widely available can be adjusted a any of the printed large scale
Classic lines

Decals are printed on an HP printer which uses a chemical way, metallic pigments. They don't do metallic silver, gold, silver, and white—requirement colors for national presents.

The sample one kit colors is a 1:1 on Modern Model kit of a console kit. It consists of mostly white car (showing just how low with a warning and white logo. It is trying to crop. The custom logo is performed using a traditional two-color ink process and the lettering pattern is very fine. One concern with it is not just custom ink without some kind of supplication.

On "test" these decals for this review I published a report rub out of old using fairly

painted to black, and applied the decals to it to see how things went. Despite more than 30 years of trying, I still cannot get a decal to consistently sit down properly on a surface. No, to clear light, I really can't remember much of the early use of applying decals, except to say that they were not without difficulty. (But we'll clear you when check I've said.) The decal paper 'Window Style' was to produced for a recently-interpreted printing. NLPR goes to the dry here. I loved the decals so to quite this) how also able to withstand a fair amount of manipulation without tearing.

If you're in need of railroads for your next modelling project, these decals will work well. If you're modelling a passenger railroad, check out the company's existing catalog to see if they already make something for you. Otherwise, decide up what you'd like and go from there. —*B. S.*

COMING IN THE April Issue

The Roberts & Charles Family Railroad features **handlaid track** and **scratchbuilt structures**

Dave Parker scratchbuilds a **bunkhouse**

David Bodnar describes his **lighthouse beacon** project. Light circuit using a Picaxe

How to make **standing seam roofing** for your buildings

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Do you consider soldering to be something of a black art or a thing to be feared and avoided? Or have you wondered what sort of tools, materials and skills it takes to assemble that gear you see? If so, *The Art of Soldering as Applied to Model Railroading* is a must-have. Bill Pfohl of MSI has put together a very professional video describing material and tools and equipment required to accomplish them.

The video begins with a brief discussion of basic methods of soldering using an iron or non-pressure torch, and a resistance soldering unit. This is followed by a discussion of various solders and fluxes. There's even a mini in-depth discussion of soldering with no lead. Bill himself is demonstrating all the techniques and uses the iron. I have discussions of how each tool works and what actually happens during the soldering process, helps to educate the novice.

Repairs of a wire and solder on a brass 4-6-0 were followed with details. Different sizes of wire and solder for the purpose are used and discussed, the point being made that there is not a single wire that is "best" for all soldering problems.

After the obligatory repair scenes are completed and very interesting section concerning a brass 0-6-0 locomotive with a badly damaged cab. Bill removes all of the detail parts from the cab, then shows everyone the cab from the inside. All pieces had been soldered together.

The engine was originally supplied without a headlight and Bill demonstrates how to add one. Bill also installs a simple light bulb in the boiler case of brass. Next, Bill goes on to some weldings on the new headlight, insert parts, install, and all with the soldering iron. Bringing working wires to the engine's motor is also demonstrated. Bill discusses the process of his going making it clear that, with practice, anyone should be able to accomplish similar work. He instructs all of his previously uninitiated friends on the one day finishing the project. Bill goes on to show other repairs to a different locomotive.

The DVD program is a re-mastered VHS tape, and if Bill & Co. put one more tape to it are a stick. Professional production, a fun, lively sound at the beginning of the tape. However, it is a friendly video presentation with one exception of bad information dispelled by a person with a good deal of experience. Bill explains things clearly in an easily understandable way. I've been soldering for years but still learned a lot from this DVD. While the program is aimed at small scale modelers, the information can be applied to any scale. (It should be noted that T-B-S is also a reseller for soldering equipment and solder.) It can't be denied been exploited by that interested in soldering, this video is highly recommended. —*Bill Hall*

Subscribers: Read reviews of other books and DVDs for a free www.GardenRailways.com web click on "Product reviews" under "Product & hobby news."

Gallery

Winter was hard

An abandoned schoolhouse in Shannon, Wyo., has survived another winter day of snowdrifting, rain and wind, while a Union Pacific coal train heads east on Jan. 24, 2021. — Photo by Trevor Hughes

Bird on a wire

A train passes on a bitter cold day on a section rail near Jacksonville, Ill., on March 18, 2021. Union Pacific is upgrading the line through Illinois for Amtrak's 110-mph passenger trains between Chicago and St. Louis. — Photo by Steve Hendrix

→ Want more photos?
Check out the "Photo of the Day"

The land was ours before we were the land's

— Photo by Craig Wilhelm

Just-in-time deliveries

Norfolk Southern GP38-2 No. 2779 hustles beneath a road bridge at Seneca, S.C., on Feb. 6, 2013, determined to keep tailgater intermodal train 213 moving northbound on its journey from Atlanta to Charlotte, N.C. No interstate traffic snarls delay this train's trailers and containers. — Photo by Peter Lewis

Early one frosty morning

The windows of a coach on the Valley Railroad lay up 1:00 passengers eagerly anticipating their ride on the Essex Steamer out of Essex, Conn., behind 2-8-0 steam locomotive No. 40. The rising sun provides light, but little heat, this chilly morning. — Photo by Trainbows Asso

Hang 'em high

[redacted] — Photo by Mia Patrick

Leaving Philadelphia

[redacted] — Photo by Mitch Goldman

Tony Koester

A nice little place in the country

Wrights Station (the depot was labeled "Wright") on the 12-foot-gauge South Pacific Coast in California exhibits all the modeling potential that has attracted modelers since the hobby began. Photographs by the author and Wrights collection; courtesy of Tony Koester Enterprises, Inc. except

Most scenic railroaders, that time was the hobby by living encircled by world models such by having outlines on the compass rose from the most fascinated area. 27" scale railroading and been decided to establish. In some cases, however, it seems we all of us that as our railroad modeling hill was worn and the railings that surrounded them.

This helps to explain the ongoing interest in modularly interested railroads, so the subject is so appealing. The concentrates their railroads here to go through to trains their way once, around and through the mountains cross stations scenery to model.

Cause to pause. The accompanying plan of "Wrights" Station on the South Pacific is a classic HO shown in a size that can help to be modeled. The things that appeal to many modelers — a tunnel through a ridge, track a road and a railroad bridge, a scenic turn, and a line forever and above — a wood depot and freight house, one railway fundamentally a town track, and here it really shows "work," as one can see a horse and buggy in front of the store and of course — an ideally scenic to the crossarm plaque.

I won't take time to delve into the historians about this location or what the narrow gauge SPC. The car and room shown it in the representative broker. Jim Jones of Bob Brown's Narrow Gauge of Glen Cove Concerns distributed for Kalmbach Publishing Co. Additional scale drawings appeared in and appear as at least three subsequent issues.

Such success are not limited to the rugged Western mountain ranges or to narrow-gauge railroads. I recall a photo of a very similar scene on the Warner Valley & Westernport switch in Pittsburgh, Pa. The W&W was another 3-footer, but like the Jewett Lake Shore & Western — it became big news around 1925, when it was acquired by the mighty Pennsylvania RR.

"The W&W was once connected to standard gauge trackage but cut all down. She didn't work at all, even a Pioneer 4-4-0 decided on the light current. Nonetheless a railfan turned the line to the east on the remarkable and bright remarkable enterprise. Narrow person was a beautiful as it to the one with

scenic. The Western locomotives and rolling stock, already lettered for the 1925 model, were modeling the W&W a very manageable project in a 1/2" railroad called HO-SD.

It keeps nothing to me like the scene of the Bitsy-Grief's Central Books. My love ground enlightens fatalistic crossed the W&W at Avonia, Pa. It was like I'm handing for a longer scale, and dismantling process, modeling the W&W and cross-ing in 1/48 would be entertaining.

A train always has two sides. So, what's the flipside of modeling a railroad on the mountainside?

For the so-called layer well, there may not be a downside. Researching the personnel, determining what the sizes of the buildings were from the current landscape, what track plans did, and then building accurate models of each structure could keep one busy for years — if not decades. There then are the locomotives and cars to consider, not to mention how extensive, locally styled, operating rules and practices, and a lot more.

A narrow gauge line ready to operate with its own equipment, an interchange with a connecting standard gauge railroad complete boasting theft roaming looking for hand between the two will model rather than mapping cars. That's good — you know what can them and when — and feel — but as much variety.

Not anything was chosen to model in a comprehensive between "good" and "bad." There is an economic advice.

Those interested in the prototype, as we are, cannot fail fascinated and cultivated, even and bad scenes like Wrights. However all that appealing. We focus in on long monitor that with passing tracks placed for overnight space to challenge the curves of railroad tracks to make the handcarts and train orders to see whether they can advance safely.

The scenery obtainable as it is to build at, or not a control for the operations. It's important to establish a sense of time and place, but it's not the point of any modeling endeavors. For others whose focus is on the railroad and building each scene, a perfect match to their modeling goals.

That's nice to have a hobby that welcomes all comers! RR

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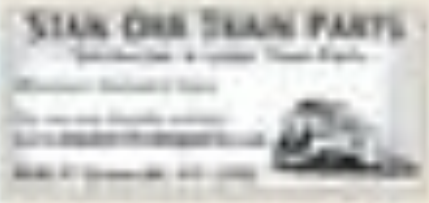
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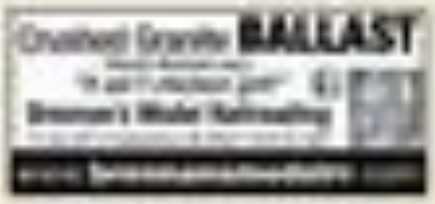
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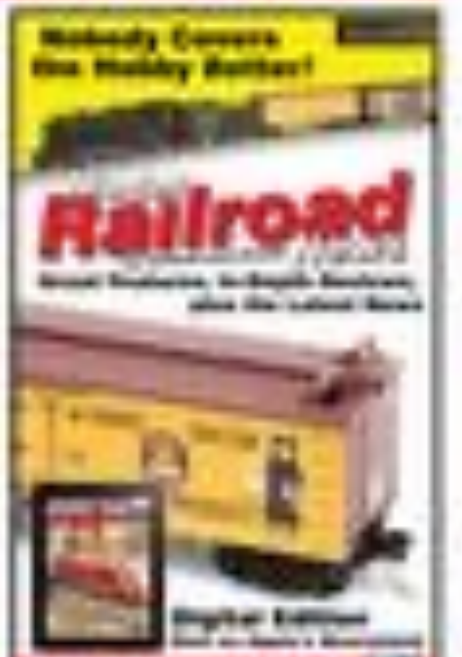

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Michigan, Flint — The Great Lakes Model Railroad Historical Society's annual train show and sale will be held on January 27 at the Genesee County Fairgrounds, 1101 N. Dye Road, Flint. Hours are 10:00 a.m. to 4:00 p.m. Admission is $5.00; children under 12 years old are admitted free. Contact: Jim Bowman, (810) 695-3750, or visit www.glmrhs.com.

Minnesota, Rice — The Great Northern Railroad Historical Society's annual train show and sale will be held on January 27 at the Granite Center Campus, 1101 S. Highway 65, Rice. Hours are 10:00 a.m. to 4:00 p.m. Admission is $5.00; children under 12 years old are admitted free. Contact: Bill Schmidt, (320) 393-1000, or visit www.greatnorthernrailroad.com.

New Jersey, North Hoboken — The Great Eastern Railroad Club's annual train show will be held on January 6 at the Elks Lodge, 1000 Hudson Street, North Hoboken. Hours are 10:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. For more information, contact Paul Mazzocco at (973) 627-0884 between 6:00 p.m. and 10:00 p.m. or visit www.greateastern.com/northhoboken.

New York, Freeport — The Great South Bay Model Railroad Club's annual train show, swap, and trade session will be held on January 13 at the Freeport Recreation Center, 130 East Merrick Road. Hours are 9:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. Table rentals are $25.00; vendors must call to reserve. For more information, contact Tim Hauck at (516) 546-6000 or visit www.greatsouthbay.com.

North Carolina, Durham — The National Train and Railroad Association's Eno Turnpike Modelers' Meet will be held on January 27 at the Durham Convention Center, 301 W. Morgan Street, Durham. Hours are 9:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. Contact: Jim Bowman, (919) 383-1776, or visit www.durhamconventioncenter.com.

Ohio, Dayton — The 81st Annual Swap Meet will be held on January 20 at Hara Arena, 1 Hara Arena Drive, Dayton. Hours are 9:00 a.m. to 3:00 p.m. Admission is $5.00; children under age 12 are admitted free. Contact: Jim Bowman, (937) 426-3752, or visit www.harahorsetrack.com.

Ohio, Kirtland — The Kirtland Railroad Historical Society's annual train show and sale will be held on January 20 at the Kirtland Community Center, 8400 Chillicothe Road, Kirtland. Hours are 9:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. Contact: Jim Bowman, (440) 256-8722, or visit www.kirtlandrailroad.com.

Ohio, Parma — The Cuyahoga Valley Railroad Enthusiasts' annual train show and sale will be held on January 13 at the Parma Senior Center, 6996 Powers Boulevard, Parma. Hours are 10:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. For more information, contact Jim Bowman at (216) 351-4444 or visit www.cvre.com.

Pennsylvania, Clarence — The Great Central Railroad Historical Society's train show will be held on January 13 at the Clarence Community Center, 1 Community Drive, Clarence. Hours are 10:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. Contact: Jim Bowman, (814) 938-7800, or visit www.greatcentralrailroad.com.

Pennsylvania, Philadelphia — The Philadelphia Model Railroad Club's annual train show and sale will be held on January 20 at the Philadelphia Convention Center, 1101 Arch Street, Philadelphia. Hours are 9:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. Contact: Jim Bowman, (215) 636-1666, or visit www.philadelphiarailroad.com.

Texas, Houston — The Houston Model Railroad Association's annual train show and sale will be held on January 27 at the George R. Brown Convention Center, 1001 Avenida de las Americas, Houston. Hours are 9:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. Contact: Jim Bowman, (713) 853-8000, or visit www.houstonrailroad.com.

Virginia, Richmond — The Richmond Model Railroad Club's annual train show and sale will be held on January 20 at the Richmond Raceway Complex, 600 E. Laburnum Avenue, Richmond. Hours are 9:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. Contact: Jim Bowman, (804) 345-7223, or visit www.richmondrailroad.com.

Washington, Seattle — The Seattle Model Railroad Club's annual train show and sale will be held on January 20 at the Seattle Center Arena, 305 Harrison Street, Seattle. Hours are 9:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. Contact: Jim Bowman, (206) 684-7200, or visit www.seattlerailroad.com.

Wisconsin, Madison — The South Central Wisconsin Railroad Historical Society's annual train show and sale will be held on January 27 at the Alliant Energy Center, 1919 Alliant Energy Center Way, Madison. Hours are 10:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. Contact: Jim Bowman, (608) 266-4711, or visit www.southcentralwisconsinrailroad.com.

Canada

Ontario, Barrie — The Barrie Model Railroad Club's annual train show and sale will be held on January 20 at the Barrie Memorial Arena, 24 Dunlop Street East, Barrie. Hours are 9:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. Contact: Jim Bowman, (705) 726-4242, or visit www.barrierailroad.com.

Ontario, Toronto — The Toronto Model Railroad Club's annual train show and sale will be held on January 27 at the Toronto Exhibition Place, 100 Princes' Boulevard, Toronto. Hours are 10:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. Contact: Jim Bowman, (416) 263-3000, or visit www.torontorailroad.com.

Quebec, Montreal — The Montreal Model Railroad Club's annual train show and sale will be held on January 20 at the Montreal Convention Center, 1001 Rue de la Gauchetière Ouest, Montreal. Hours are 9:00 a.m. to 4:00 p.m. Admission is $5.00; children under age 12 are admitted free. Contact: Jim Bowman, (514) 871-1030, or visit www.montrealrailroad.com.

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Andy Kyparissides

Operating with fiddle yards

Fiddle yards are hard to beat when it comes to providing the greatest operating benefits with the most economical use of track space. They can support quite useful operations without a fixed circle and can handle all the main trains and workings we plan over a day or so at our regular exhibition. They can also increase the attraction of operation considerably like scratching and passenger cars, and shorten open log freight cars or trains or engines to the appropriate dimensions.

"Fiddly work" is a term used by those who handle locomotives but avoid working right in constructive practice. It describes an active staging yard, an off-scene or behind-the-scenes invisible where incoming trains are reconfigured and returned to the on-stage railroad as full trains ready to go back on the track if that's convenient. See typically engines and rolling stock to the fiddle yard are inconvenient to travel, or "fiddled" about of movement is sacrificed to the fiddle yard in the interest of supporting operations on the visible railroad.

The "active" part of active staging is an operator who works in the fiddle yard to keep the operations running the rest of the railroad supplied with trains. We invest a lot in facilities with the fiddle yard and we like this! I work 1:24 Colorado Western RR "the studio" because he thinks under the bench or round the hall the fiddle yard just wouldn't work again until the session is over. Talking to the terms the fiddle operator at work with the pace of operations in stage.

Rob Kurtz, the fiddle operator on Larry Resti's HO scale Minneapolis St. Croix & Southern, pulls cars from storage to make up the next outbound freight. The St. Croix scene uses a towing shuttle-style fiddle yard.

The flexibility of active staging is easy to understand if we choose to "position" what many think of as conventional use of staging yards. In passive staging trains are lined up ready to depart at the beginning of an operating session, should with some tracks left empty for arriving trains. Then trains depart on schedule and return arrive. The practicality of simple staging really is to store additional trains not scheduled to ply local the operation of more trains or overflow sections.

Eventually all the trains in staging have run. The returning arrivals remain in an end and can't be restarted until the trains in staging are re-staged. This usually means the layout design turns and must all the trains between sessions, perhaps adjusting their consists and updating the car cards or whatever printed paperwork.

With active staging in fiddle yards with the trains stacked conveniently at the start of the session there to be lined up on staging tracks. The fiddle operator builds back trains as the session progresses. Where trains arrive, they can now be returned to storage tracks or directly to staging track space for later operating trains. Since trains and workers can both go back to the fiddle yard as required and scanned by the fiddle yard at any time, there they don't have to travel on the track after arrival.

As long as freight cars are being handled anyway, it's easy to rotate these on and off the layout. This creates greater variety in train consists and accommodates a larger car fleet than the layout can actually handle – I not removed on maintenance for every 18 or so. In the same way, locomotives, cabooses, and passenger cars can be rotated, so these critical pieces of equipment won't have the look and operations.

In general, active staging can support a given level of traffic in a fiddle yard with fewer tracks than passive staging yards would require for the same number of trains. The fiddle yard probably needs to include commission pigeon storage tracks, and may include a turntable for turning locomotives and other equipment without lifting it off the track. A mid-layout yard to be sure the fiddle yard incorporates a reverse loop for turning locos. (There's one of the 2 active fiddle yards may have the Pizza Inn. A "2 pizza 24" commitment for handling and turning engines up to 11 inches in length.)

Space-saving operations become possible with fiddle yards because there's no need to provide locations on which a service begins or ends. The fiddle operator can fill and empty hoppers and gondolas in busy traffic commodities flowing to appropriate destinations, and also place and service industry cars much on the visit and gondolas.

The major limitations is that at least one member of the operating crew must accept the secondary role of fiddle operator or both. This position doesn't absorb needed any dimension operating job, but second hand can maintain facilities at the control side of a place in the layout's operations. A final it's usually ideal for a close friend of the layout host who understands the operating scheme and how the layout is meant to perform.

If you have someone prepared to play this key role, active staging in a fiddle yard can add new levels of flexibility and realism to your railroad's operations.

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